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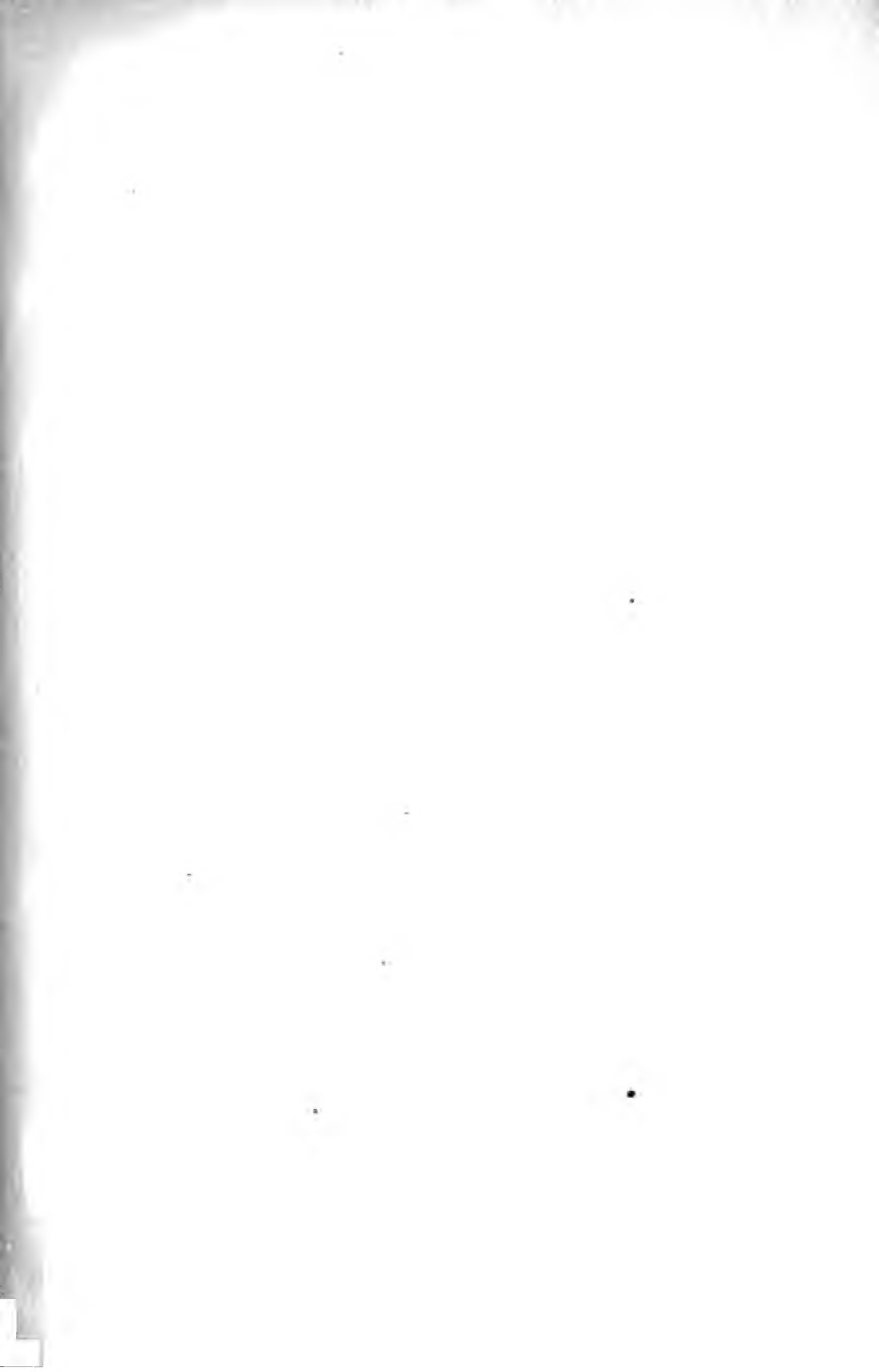
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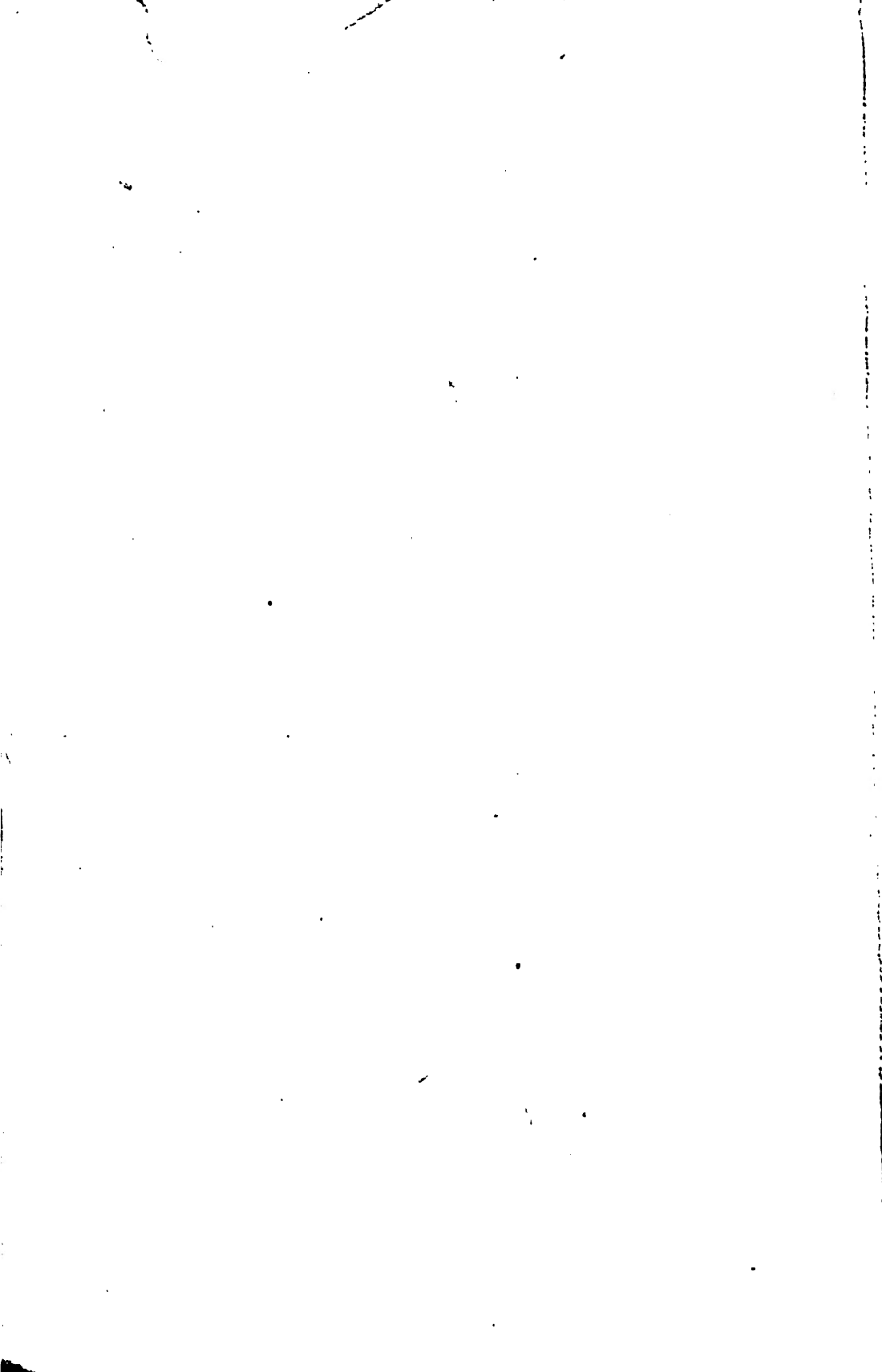
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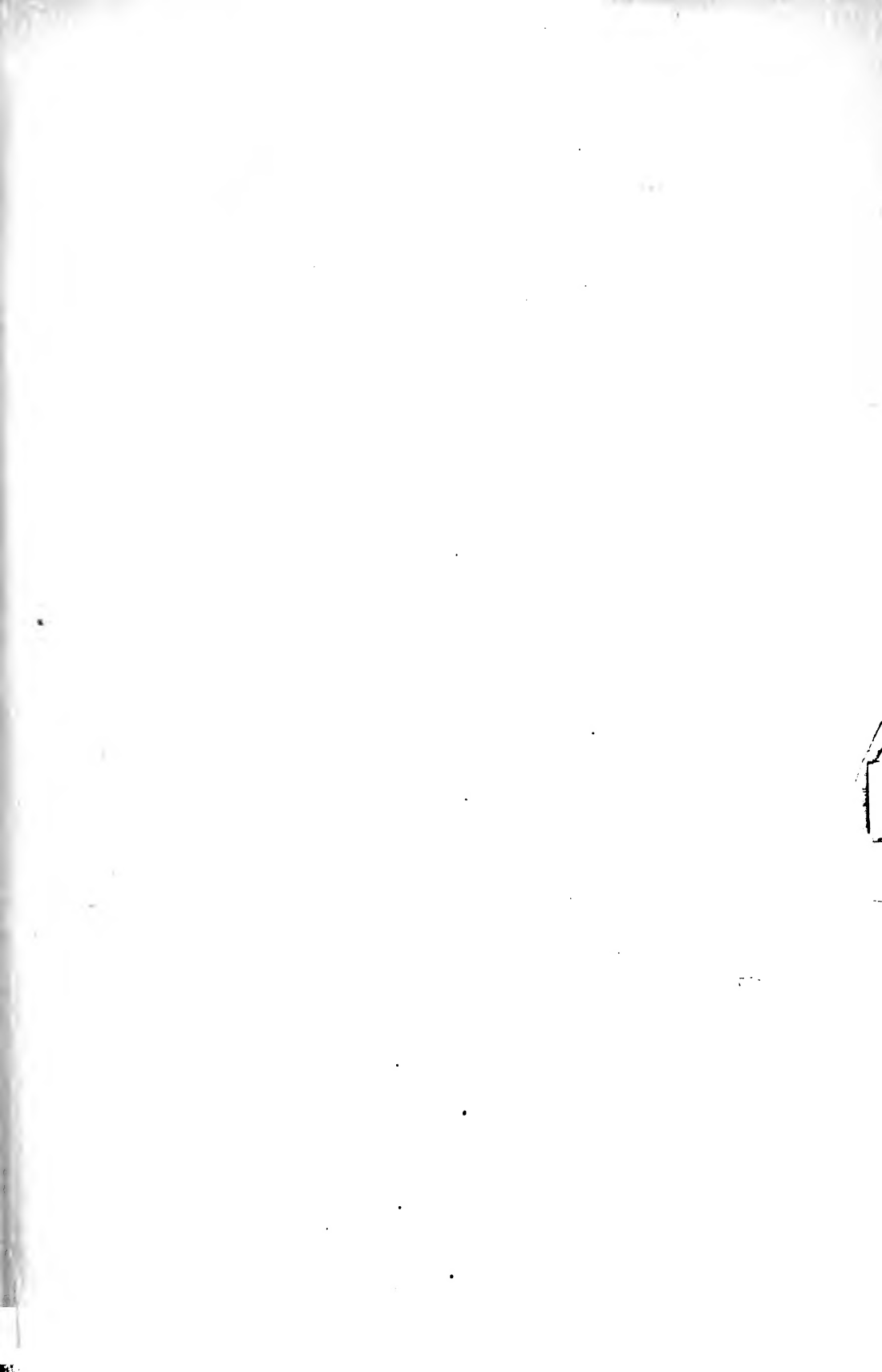
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QUARTERLY COMPENDIUM

—OF—

MEDICAL SCIENCE:

—A—

SYNOPSIS

—OF—

THE AMERICAN AND FOREIGN LITERATURE OF MEDICINE,
SURGERY AND COLLATERAL SCIENCES.

EDITED BY

D. G. BRINTON, M. D.,

—AND—

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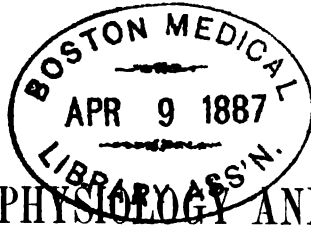
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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

The Partial Regeneration of the Liver.

From the *London Medical Record*, November 15, 1884, we learn that in the May number of the *Annali Universali di Medicina* is a long and interesting original article by Professor A. CORONA, Professor of Physiology in the University of Sassari, on the partial regeneration of the liver. After referring to the great activity of the school of experimental pathology in Italy, and instancing the discoveries of Tizzoni and Griffini as to the partial reproduction of the spleen, and of Paladino as to the reproduction of the ovarian parenchyma, he passes in review the labors of Colucci and Tizzoni on the partial regeneration of the liver, and those of Petrone on the same subject.

The principal conclusions at which Tizzoni arrived, are these. 1. The hepatic cells respond with very active proliferation to mechanical stimuli. 2. The reaction of these elements is not limited solely to the point irritated, but is also diffused to a certain distance from it; the reaction, however, gradually diminishing as the centre of irritation is receded from. 3. By this multiplication there may take place in some circumstances a regeneration of the liver in correspondence with wounds of this viscus, and a new formation of hepatic cells and of biliary ducts beyond their normal limits. 4. The histological process of partial regeneration of the liver is identical with that of the new formation. 5. Experimental new formation of the liver takes place in the same way as the embryonal development of this viscus; that is, by the formation of hepatic cylinders (Lebercylinder of Remak), which, taking origin from the collection of hepatic cells pre-existing in very active proliferation, push themselves into the connective tissue, primarily uniting the margins of the wound, which may be formed by the adherent great omentum. 6. In the part of the liver regenerated and newly formed, a true and proper disposition of the acini is wanting, and the hepatic trabeculae have generally the same direction as the connective fibres in the midst of which they are formed; they are then irregularly divided by septa of connective tissue in which run large blood-vessels, especially veins and large biliary vessels. 7. Histologically, the new formation of the liver, already completely developed, is identical in all its components (hepatic cells and biliary vessels) with the corresponding part of the normal liver.

Professor Corona, wishing to repeat the experiments of Colucci, operated on a number of dogs, and in three successfully removed a portion of the liver, the dogs afterwards regaining perfect health. These were killed 17, 43, and 26 days after the operation. Microscopic sections of the cicatrized liver showed very clearly proliferations of the hepatic cells; the contained nuclei varying extraordinarily in size, form, and number, but being larger than those of normal hepatic cells, and coloring more intensely with carmine. By the effect of the multiplication of

the cells, cylinders or hepatic cords penetrating the cicatricial connective tissue are formed, and this process is well seen in the admirable plates which illustrate the paper. In plate 1 these projections into the cicatricial connective tissue of cords of hepatic cells of new formation are very visible. The facts observed by Professor Corona, before the publication of Tizzoni's researches, substantiate the latter's conclusions, especially as to the partial regeneration of the liver, and these are also generally confirmed by Petrone; but the new formation of the liver in the sense understood by Tizzoni he had not seen. Petrone holds with regard to the liver that, in destructive processes, especially if slow, there is a tendency to regeneration; that regeneration ordinarily takes place under the form of excretory tubes of embryonal aspect, with small biliary ducts; that the basis of the regeneration is the pre-existing epithelial elements, and not only those of the excretory tubes, but also the epithelial cells of the parenchyma, which show evidence of their multiplication in forming embryonal epithelioid accumulations, from which the regenerating tubules originate in a gemmiparous manner. The process of regeneration originating from the base of the local destruction, and the work of repair developing new blood-vessels and connective tissue, it follows that, when regeneration takes place slowly, more or less marked development of fibrous connective tissue, leading finally to cicatrization, results. Colucci admits as certain the regeneration of the liver after partial removal; but, at least in the animals operated on by him, white rats, he admits also the constant hypertrophy of the remaining lobes, which attain the normal volume of the whole liver. But he differs from Petrone and Tizzoni as to the genesis of the hepatic tissue of new formation in the regenerative process. He denies that the partial regeneration of the liver takes place from the pre-existing cells, which, he says, do not participate in the process, and which at the surface of the wound are destroyed, their place being taken by leucocytes. The hypertrophy of the liver is due to dilatation of the blood-vessels, from which there is escape and emigration of leucocytes, which, finding outside the vessels conditions opportune for their ulterior development, become organized and differentiated, some into vaso-formative cells, others by direct adaptation into hepatic cells. Colucci's studies confirm the possibility of the cicatrization of the liver with complete restoration of the removed parts; but Corona agrees with Tizzoni and Petrone in holding that the new formation of the hepatic tissue does not arise from the organization and direct metamorphosis of the white blood-corpuscles as held by Colucci, but almost certainly from the proliferation of pre-existing hepatic cells, which when irritated respond to stimuli like many other tissues, and thus repair the losses suffered. Corona also disagrees with Colucci in not holding that, among the conditions for the complete regeneration of the removed hepatic tissue, it is necessary that the epiploön should not enter the wound. In two of his experiments regeneration took place, although the epiploön was adherent to the surface of the wound.

The conclusions of his paper are these: 1. Dogs bear well the partial removal of the liver, after which they may regain perfect health. 2. A regenerative process begins quickly in the wounded liver, the newly formed hepatic tissue being in some points complete seventeen days after the operation. 3. The regeneration takes place by a process of cellular proliferation of the pre-existing cells by nuclear multiplication.

After Corona's paper was written, Professor Griffini published his *Studio Sperimentale sulla Rigenerazione Parziale del Fegato* (*Archiv. per le Scienze Mediche*, Vol. vii., No. 18). In this paper, after referring to the above-mentioned works of Tizzoni and Colucci, he describes his experiments on dogs and rabbits, sixty-six operations in all, the animals being examined in from 24 to 128 days after the removal of portions of their livers. The principal facts observed after partial removal of the organ were—1. more or less hæmorrhage, never grave; 2. collateral hyperæmia and sloughing of the hepatic parenchyma of the margins of the wound, which a few days after operation was found with swollen dusky borders, sometimes containing a blood-clot, sometimes with the epiploön engaged in it; 3. proliferation of the interacinous connective tissue, and proliferation of the epithelium of the pre-existing bile-ducts. He describes minutely the simultaneous progress of these two proliferations, and the substitution of the young connective tissue for the coagulum or its fusion with the epiploön, as the case may be. In this connective tissue of new formation are found commencing cellular cylinders or cords in continuity with the interacinous bile-ducts, of which they are a simple prolongation. Large epithelial cell-cords, which subdivide quickly into small secondary branches, anastomose and form a network of large meshes. These cords of tortuous course do not allow the limits of the numerous cells which constitute them to be well seen: these are small, protoplasm, pale, or finely granular, with large nuclei, roundish or slightly oval. By examining the various stages of development, and by careful injections of the bile-ducts, Griffini proves that the epithelial cords originate directly from the pre-existing bile-ducts, the cells of which are in active proliferation, and which are all channelled from the beginning. In stages of more advanced development, the epithelial cells of the cords described, if not distinct at first, gradually enlarge; their protoplasm becomes granular, their limits more distinct, and they assume characters which approach them greatly to fully-formed hepatic cells. As to the proliferation of the hepatic cells, Griffini notes that, in the first stages, when, that is, there is really old parenchyma in the margins of the wound, he saw no facts to prove it; on the contrary, in more advanced stages in the newly-formed parenchyma, he admits a true proliferation by which its trabecular system is completed. He declares, moreover, that no fact occurs favorable to the transformation of the white corpuscles into hepatic cells, as admitted by Colucci. He concludes that the process of partial reproduction of the liver finds a perfect comparison in the embryonal development of this organ, as he has already proved with regard to the partial reproduction of the spleen.

Cutaneous Temperature.

The *Journal of Cutaneous and Venereal Diseases* of October 1884, quoting from an inaugural dissertation of A. WITOWSKI, of Berlin, says:

Students of the human temperature in health and disease have always bestowed their chief attention upon the interior of the body, to the comparative neglect of its outer integument. And in this they are quite right, since an accurate general estimate of temperature, such as can be formed under normal conditions respecting the interior of the system, is out of the question with regard to the skin, exposed as it is to all the vicissitudes of the surrounding medium. Hence the

present method, by which the skin is made use of as merely a guide in determining the internal temperature, is in fact the only correct one. By perceiving that the surface of the body is unnaturally hot or cold, we are prompted to ascertain the temperature of its cavities; in this way only can the temperature of the skin be of service in our clinical investigations. To apply a single thermometer to the skin is a practically useless proceeding, and the published statements of its medium temperature must be regarded as wholly unreliable, so widely do they differ among themselves. It can only be said upon this point that the average temperature of the skin is somewhere between 30° and 40° C., but that in particularly cold air, or after profuse perspiration, its temperature in health may fall considerably below the former point. A skin temperature of 40° C., or upwards, is always indicative of disease.

A very inadequate conception appears to be generally entertained of the enormous fluctuations in temperature to which the skin is constantly subject. I happened recently to have under my care a hospital-patient who, being deaf and dumb, and not fond of reading, was accustomed to lie perfectly quiet during much of the day, so that the thermometer could be left undisturbed upon his chest for an hour and a half at a time. When this was the case, I almost always found that a change of temperature, amounting sometimes to a whole degree, or even more, was indicated at least as often as every ten or fifteen minutes. From these observations it is a necessary inference that all attempts to determine the precise temperature of the human skin must result in failure, both when made upon large numbers at once, on account of the diverse thermal conditions which exist among them, and in the case of individuals, by reason of the continual fluctuations above referred to.

The temperature of the skin can be successfully investigated in only one way—by taking it at two points of the surface simultaneously, and noting the difference. This method enables us to say that the skin at one point is warmer or colder, as the case may be, than at the other, but not to ascertain its absolute average temperature. Comparative experiments of this kind are followed by three results; either the thermometers always indicate the same temperatures at both localities—of the chest, for instance; or they mark a constant difference; or lastly different variations are shown at different times, one of the thermometers rising or falling more quickly than the other. In the first two of these cases the variations are chiefly caused by changes in the surrounding medium (external causes); in the third, by alterations in the bodily heat production and the circulation of the blood (internal causes). The observations thus made by Peter Fräntzel and Paul Philipp have resulted in nothing of value so far as diagnosis is concerned, and therefore I shall only cite the conclusions arrived at by Wegscheider as to the relations of the cutaneous temperature in general: (a) The temperature of the interior of the body does not necessarily correspond to that of the exterior at any point whatever of the latter. (b) No two localities at the surface, even if precisely symmetrical, exhibit the same variations. (c) Fluctuations in temperature become greater during fevers.

The ordinary thermometers with bulbs are of little use in the observation of external temperature. In the first place, it is very difficult to fasten them securely on the chest, and secondly, as they are usually applied, only the

under surface of the bulb is in contact with the skin. Hence, they are a long time in getting heated. An instrument better adapted to the purpose has lately been recommended by Professor Kronecker. In this the mercury is not contained in a bulb, but in an exceedingly delicate glass spiral, closely coiled in a horizontal plane at right angles with the marking tube, and having a diameter of about $2\frac{3}{4}$ cm. The mercurial surface is in this way applied almost directly to the skin. It heats up rapidly, and is exceedingly sensitive. The mode of employing this apparatus is as follows: A wide piece of flannel is spread over the anterior surface of the chest, and the latter is encircled by an elastic band, furnished with buckles. Both flannel and elastic are pierced with holes over corresponding points on either side of the chest; through these holes the upright portion of the thermometers is inserted, the elastic binder is buckled snugly over the horizontal spirals, and the preparations are now complete. The mercury in the spirals is protected from the air by the flannel, which also lessens the tension of the elastic on the chest. The latter appliance, moreover, exerts an equable pressure on the two spirals, which are thus held in place with uniform firmness. Care must be taken that there are no folds in the flannel compress, since at such places more warmth will be produced. As the flannel and the elastic together generate a great deal of heat, which makes the patient restless, and thus may lead to a breakage of the tube, it is better after adjusting them to wait eight or ten minutes before introducing the thermometers, which will then afford the required indications in from five to eight minutes. This method will prove successful in most instances. But in a case of pleurisy, the fastening of the elastic binder will sometimes cause so much pain as to be quite unendurable, and I have therefore been led to devise another mode of keeping the thermometers in position. I had two iron rings made, about $1\frac{1}{4}$ cm. in height and of the same circumference as the glass spirals already described. After setting up the thermometers on their respective halves of the chest, they were covered with pieces of flannel of the same size over which the rings were slipped, and these latter, resting like paperweights upon the horizontal spirals, kept the instrument steady until the examination was finished, provided the patient did not move.

Fifty of these comparative observations were made on healthy persons by Philipp, who noticed in seven cases a difference in temperature between the two halves of the chest, amounting twice to 0.1° , twice to 0.2° , and once to 0.5° . In five instances the left side was the warmer; in two the right side; in one of these two the difference amounted to $+0.5^{\circ}\text{C}$. It may be that this species of thermometry constitutes a more sensitive medium of research than other methods of physical exploration, and although the differences thus brought to light may not be sufficient to settle the diagnosis of a disease, or to indicate the stage at which it has arrived, yet they may sometimes be marked enough to aid us in protecting the thoracic organs from the threatened onset of disease. At the commencement of chest-complaints, inflammatory symptoms are predominant; hence arise disturbances of the circulation which may be manifested in an increased vascular fullness of the cutaneous, and especially of the subcutaneous, connective tissues.

On summing up the results of my observations, and comparing them with the published reports, I find that in those pulmonary diseases which generally attack

both lungs, no constant differences were discoverable between the external temperature of the two sides; while in exudative pleurisy, usually a one-sided complaint, the temperature of the affected side was raised in the majority of cases. As to pneumonia, which is also for the most part confined to a single lung, I had no opportunities for investigation.

New Views on Cirrhosis of the Liver.

The *Med. News*, Nov. 8, 1884, says: Up to the present time, nothing seems to have been better determined than that the primary change in cirrhosis of the liver is a chronic inflammatory hyperplasia of the interacinous connective tissue, and that secondarily the cells are destroyed by pressure of the contracting cicatricial tissue. But at the recent meeting of the Society of German Naturalists and Physicians at Magdeburg, PROF. ACKERMANN read a paper in which he claimed that the primary change is a necrosis of the liver cells, constantly associated with a deposit of fat in their interior. This death is brought about by the action of the poison circulating in the portal blood, be it alcohol, phosphorus, or a micro-organism. On the other hand, he considers the overgrowth of connective tissue as a secondary, reactive, and even salutary process, intended to limit the primary one. The hyperplasia is attended from the beginning by the formation of a large number of new arterial capillaries which not only serve for the nourishment of the liver, but also render the secretion of bile possible for a time longer. This is accomplished by the formation of new biliary passages, which maintain a communication between the parts of the liver cut off, and the pre-existing bile-ducts. It is in consequence of this, according to Ackermann, that jaundice is so rare in cases of cirrhosis. These capillaries, both biliary and arterial, are very distinctly present in the oldest parts of the connective tissue, a fact which is incompatible with the view that the atrophy of the cells is a consequence of the contraction, since, if this were the case, the blood-vessels and biliary capillaries would be destroyed by the process. The liver is smaller, because, as a rule, the destruction of the cells is more rapid than the new formation of connective tissue.

On the other hand, if the connective tissue formation is more rapid than the cell destruction, there must result an enlargement of the entire organ. And this is what always occurs in the first stage, and is sometimes continued, resulting in the morbid product known as that of hypertrophic cirrhosis, which, therefore, according to this view, need not be considered a special form of the disease.

Ackermann admits that there is a very rare affection, which he has seen but once in man and twice in the livers of horses, in which there is a true inter- and intra-acinous hyperplasia of connective tissue, which follows the course of the pre-existing vessels, and is not accompanied by the formation of new ones. In this form the cells atrophy from pressure of the neoplastic connective tissue, but the vessels remain patulous, there is no ascites, and to the very end the organ remains larger than the normal, while the surface is smooth instead of nodular.

The discussion was participated in by Profs. Rindfleisch, Strümpell, Aufrecht, Küsner, and Schwalbe. The first adhered to the original view of the origin of cirrhosis and the destruction of the cells by the contracting interstitial tissue, but the others seemed to favor the new views of Ackermann, adducing the analogous process in parenchymatous nephritis, in which a primary cellular change is fol-

lowed by an interstitial hyperplasia, and the fact that liver cirrhosis begins with a primary disease of the liver cells by causing artificial obstruction of the bile-ducts. While it is acknowledged that phosphorous poisoning induces a rapid destruction of liver cells, Küssner adduced the fact that chronic phosphorous poisoning causes a "classic cirrhosis," whence he thinks it also highly probable that in ordinary cirrhosis the primary change is in the parenchyma, while the interstitial hyperplasia is secondary.

There can be no doubt that there is some force in the analogies presented, but, had they been carried a little further, it is not impossible that a different conclusion might have been reached. It is well known that there is a form of interstitial inflammation in the kidney in which there is a primary interstitial hyperplasia and a secondary destruction of parenchyma cells. It is well known, too, that this process is a slow one. Is it not more reasonable to suppose, therefore, that the same cause, operating slowly and in small quantities, produces an interstitial hyperplasia, which, when concentrated and operating rapidly, acts upon the parenchyma cells? At the same time, these researches of Ackermann open a new direction of research and thought which may lead to valuable results.

Naso-Pharyngeal Fibro-Sarcoma.

To the New York Pathological Society (October 8, 1884), Dr. LINCOLN showed a specimen which he had removed, July 22d, from a boy, sixteen years of age, who had never been very strong, and who had always suffered from nasal catarrh. He first noticed obstruction to nasal respiration, together with a tumor, in 1881. From this date he had suffered from frequent severe nasal hemorrhage, usually coming on after active exercise, but sometimes during sleep. A physician had attempted to remove the tumor, which could then be seen through the nostril and mouth, by the ordinary polypus-forceps, but had failed. Dr. Lincoln saw the patient first, through the courtesy of Dr. Satterthwaite, on July 12th, at which time there was a noticeable fullness on the right side of the nose. The right nostril was filled to the margin by the growth, which pressed the septum to the left; the soft palate was deflected from the perpendicular, and below it, filling the nasopharyngeal space, the tumor could be seen, apparently having its principal attachments to the vault of the pharynx and the roof of the nostril. It was exceedingly vascular, and evidently growing rapidly; therefore an immediate operation was advised, without preliminary treatment by electrolysis. On July 22d the galvanic-cautery wire was applied to the base of the tumor while the patient was under the influence of an anæsthetic, and Dr. Lincoln succeeded in cutting through the pedicle and drawing the tumor out entire through the mouth, no hemorrhage taking place during the operation. The tumor measured four inches in its greatest length, and two inches and a half in thickness. The surface of attachment, which measured two inches by one and three-quarters, was then cauterized. The weight of the growth was two ounces and three-quarters. A week after the operation the cut surface presented a healthy appearance. The patient would not give his consent to a re-application of the cautery for the purpose of preventing a renewed development of the growth.

The President thought there could be no comparison between this mode of operating and the old mode of preliminary tracheotomy, tamponing the pharynx,

and removing the upper jaw. It seemed, however, that there were some cases of nasopharyngeal tumors in which the wire could not be applied to the base of the tumor, on account of its extensive attachments. He mentioned two cases in which he had operated by removal of the upper jaw, the tumors having extensive attachments to the base of the skull, etc. One of the patients died, apparently as the result of an extension of the growth into the skull, and in the second case the result was similar, although death took place later. He now had a patient who was begging for a similar operation, but he hoped first to have a consultation with Dr. Lincoln as to the advisability of trying the galvanic cautery. The great difficulty in this class of cases was that usually they did not come under observation until it was impossible to apply the wire, and the general health was too greatly reduced from repeated hæmorrhages, etc., to make success from a surgical operation at all probable.

Dr. Howe thought that even in the bad cases referred to, with such extensive attachments, the tumor might be removed piecemeal by the wire.

Observations on a Decapitated Head.

The observations related by Dr. Petitgrand, in a paper published in the *Revue Scientifique*, extracts from which are given in the *Medical News*, are highly important as furnishing the most precise evidence of the presence of consciousness after decapitation that exists. The man executed was a pirate, of robust frame and brave demeanor. He was an Annamite, and executed at Saigon. M. Petitgrand concentrated his whole attention upon him. He was placed in a kneeling posture, strongly attached to a solid post in front of him, with the head and neck voluntarily and strongly flexed.

The place for the blow having been marked with betel juice, the head was struck off at one blow by means of a long sword having a broad blade; the procedure, to be properly carried out, requiring great address on the part of the executioner, and much *sang froid* on that of the culprit. When this is the case there is, of course, far less contusion and concussion of the spinal cord than with the guillotine, and therefore so far a greater possibility of an ulterior manifestation of the functions of the encephalon. During the preparations Dr. Petitgrand never withdrew his eyes from the culprit, placed at two metres distance only, and with whom he more than once exchanged looks. The head fell within a metre and a half from him, without, as ordinarily, rolling away; and the divided part of the neck resting on the sand, the hæmorrhage which ensued was very slight. At this instant he was startled at finding the eyes of the head steadily fixed on his own, and not believing that this could be an act of consciousness, he rapidly described a quarter of a circle around the head, which lay at his feet, and saw plainly the eyes following this movement. He now returned to his former position, but more slowly, and the eyes followed him for "a very short instant," and then suddenly ceased to do so. At this moment the face expressed manifest anguish, the poignant anguish of a person in a state of acute asphyxia. The mouth opened violently, as if to take a last gasp of respirable air, and the head, thus displaced in its equilibrium, rolled on its side. This contraction of the maxillary muscles was the last manifestation of life, a period of from fifteen to twenty seconds having elapsed since decapitation.

From these facts Dr. Petitgrand draws these conclusions: (1) That the head separated from the body is in possession of all its faculties as long as the hæmorrhage is restrained within certain limits, and that the proportion of oxygen dissolved in the blood is sufficient for the maintenance of the nervous function—that is, for a short period, which in any case would not exceed half a minute. (2) That the repeated convulsive movements of the lower jaw, after the head has become detached—movements which, without doubt, have given rise to the expression, “biting the dust”—are nothing else than the habitual reflex movements of the face in acute asphyxia. These cannot be absent when the little blood contained in the decapitated head flows away or becomes disoxygenated, and are caused by the sensation (probably conscious) of the want of necessary oxygen in the blood remaining in the encephalon. On the present occasion Dr. Petitgrand had no opportunity of observing the trunk of this beheaded man, but he has had opportunities of observing it on other occasions, and has always noted the following circumstances: The head once detached, the trunk (the body being attached by cords to the post, is unable to fall) suddenly assumes the vertical position, columns of arterial blood springing up a metre or more in height. This straightening of the trunk and the jets of blood being simultaneous, are in fact related to each other as cause and effect; for at each new systole, manifested by the projection of a column of blood, the trunk is raised, to bend again immediately. The jets soon do not ascend to more than a few centimetres, and the movements of the trunk are reduced to mere oscillations. After from twelve to fifteen systoles all the blood is evacuated and the trunk remains motionless, and as it were suspended to the post, which prevents its falling on the ground. Dr. Petitgrand has never noticed any elevation of the ribs or sinking of the epigastrium, or any other sign of an attempt at respiration. The heart seems to continue to live awhile its own proper life, as is shown by its violent systoles, which are capable of effecting the stretching of the trunk.

Experiments on Chronic Drunkenness.

THE *Medical Press*, Oct. 29th, 1884, says: During the last three years MM. Dujardin-Beaumetz and Audigé have worked at this subject with a perseverance which has justly gained the approval of men of science in all countries. The animals chosen for experimenting upon were pigs, for these reasons, that it is so easy to make them partake of alcoholic substances in their foods, and also that their digestive organs are very similar to those of human beings. Eighteen of these animals, aged 4 months, were submitted to the same *régime* at Grenille. They were given daily to each kilogramme of their food, weighed out as follows, 1-2 grammes of any one of the following spirits:—Ethylic alcohol at 100°, potato spirit ten times rectified at 49°, potato spirit purified by “charbon” at 46°, distillery grains at 92°, potatoes at 73°, grains at 37°, beetroot at 34°, spirit of beetroot rectified at 92°, and trade amylic acid at 90°. As long as the dose did not exceed 1 gramme there were no difficulties of digestion, but when 1½ to 2 grammes were given the pigs lost their appetite, and their organs became impaired. Thus, it was necessary to suspend the treatment occasionally, to prevent serious results. The symptoms were found to be exactly similar to those of human beings suffering from chronic drunkenness. As regards the digestive func-

tions, they were—loss of appetite, bilious or slimy vomiting, and bloody-mucous diarrhœa. There was also observed anomalous redness of stomachic mucus, occasionally congestion of the intestines, and once or twice violent ecchymoses comparable to the spots to be seen on the intestinal mucus of dogs dying of acute alcohol. These gastro-intestinal anatomical symptoms were much less marked than the functional troubles. The bilious secretion was also abnormal, as was proved by the yellow colour of the conjunctiva and urine; but in the autopsy the congestion of the liver and the friability of the parenchyma were only observed during the complete absence of interstitial hepatitis and acidity. The urine was little changed, only presenting a bilious appearance. The renal tissue was greasy, but this is very common among pigs. Nearly all the pigs suffered from a cough, and at the autopsy the lungs were shown to be congested, and sometimes in an apoplectic condition; the former was caused by the elimination of alcohol by the air tubules, and by the cold during the experiments. The organs of circulation were unaltered. The modifications of the nervous system were shown by drunkenness, the animals falling into a torpor soon after digesting the alcohol, but the ordinary excitement was not visible. After a time trembling was noticed, and want of strength in the limbs. The experiments, however, did not interfere with the fattening of the animals, but their sale for food was prohibited, as there existed in the flesh intestinal hæmorrhage of the muscular parenchyma. There is yet a great field for experimenting open to discover the effects on the system of each.

The Glissonian Origin of the Subhepatic Veins, and their Share in the Topography of Hepatic Lesions.

In a paper in the *Rev. de Méd.* for August, M. Sabourin calls attention to the existence of venous branches connecting the subhepatic veins with the sheath of Glisson, which forms the investment of the biliary portal canals. These veins he terms the "subhepatic Glissonian veins," and describes them as existing on all the biliary portal canals of the third degree and upwards. They play as important a part in the evolution of systematic lesions of the liver, as do the subhepatic veins themselves. He then refers to five systematic lesions of the liver; namely, pigmentation of the subhepatic venous territory, occurring as a senile change or in the subjects of atheroma, Bright's disease, leucocythæmia, etc.; the so-called "cardiac" liver; ordinary or alcoholic cirrhosis; fatty infiltration, affecting the portal biliary tracts, such as is frequently found in the subjects of chronic phthisis; and nodular fatty degeneration. In each of these classes, he points out that the process of evolution is affected by these subhepatic Glissonian veins, whether the starting-point be the subhepatic, as in the first three, or the portal biliary system, as in the last two cases. For while in those starting from the subhepatic region the pigmentation, congestion, or cirrhosis (as the case may be), can be traced from the central subhepatic veins along radii formed by the subhepatic Glissonian veins towards the biliary system, in the case of the fatty infiltrations referred to, which have their centre of evolution in the portal biliary region, so that the sheath of Glisson is enveloped in a fatty zone, tracts of sound parenchyma found here and there abutting right upon the portal canals are shown upon examination to have followed the course of the subhepatic Glissonian veins,

from the sound region of the subhepatic veins up to the sheath of the portal canals. M. Sabourin, in conclusion, lays down the following proposition. In both the subhepatic and the portal biliary cirrheses, cirrhotic anastomoses occur between the subhepatic and the portal systems, but in an inverse manner; for—(1) in subhepatic cirrheses the fibrosed tracts extend from the small veins towards the large portal canals; (2) in portal biliary cirrheses, their course is from the small portal canals towards the large subhepatic veins.

The Decomposition Products of Bacteria.

Professor Brieger, in the *Zeitschr. für Physiol. Chemie*, Band viii., Heft 4, after some general remarks on decomposition processes, and on Koch's fundamental methods for the investigation of the bacteria concerned, makes reference to Bienenstock's recent researches, in which he discovered five well characterized species of bacteria as exclusively present in the fæces. The author then states that in addition to the above he has found another variety present in great numbers. This coccus is about the size of that occurring in pneumonia, and is found very frequently in the diplococcus form. When brought upon peptonized gelatin, it grows in white clumps that tend to increase in height rather than in breadth, assuming the form of pyramidal flasks. On the cut surface of a sterilized potato, it assumes the appearance of dirty white patches. It can be subcutaneously injected into animals without producing any ill effect. A small quantity of the pure cultivated coccus, introduced into a sterilized grape-sugar solution to which some freshly precipitated carbonate of lime has been added, will quickly cause a decomposition of the sugar, with the evolution of ethyl alcohol.

Paraplegia and Ulceration of the Bowels.

In the *London Med. Times*, Nov. 8, 1884, Dr. THEODORE ACLAND reports two cases of this association. Both patients had had syphilis; in both the symptoms resembled simple softening of the cord, and ran a rapid course, one ending in three weeks, the other in a month. In both ulceration had been mainly confined to those parts of the bowel which had been most distended, in one occurring in the small intestine, in the other in the stomach and colon. The question naturally arose, whether the nervous lesion had any causal relation to the intestinal lesion. Tubercular, syphilitic, cancerous and typhoid ulceration were excluded. The appearances were those of simple loss of substance, rather than of an inflammatory change. The temperature was never above 100° , and was mostly sub-normal. The question was, then, whether the ulceration was due to simple distension, or whether it was the result of loss of nerve power and analogous to a bed-sore, due therefore to pressure in a viscus whose distension resulted from lesion of the nervous system. In support of this view it was shown that the lesion of the cord was in the dorsal region, which suggested a probable implication of the roots of the thoracic ganglia whence arose the splanchnic nerves.

II. PHYSICS, BOTANY, CHEMISTRY AND TOXICOLOGY.

Electricity in Opium Poisoning.

Dr. SAMUEL AYRES thus writes in the *Louisville Medical News*, Nov. 8th, 1884: The treatment of narcotic poisoning formerly consisted of the use of the stomach-pump or emetics, the vigorous application of switches, walking the patient, and the administration of drugs that were supposed to counteract in any way the action of the poison. That such a course of treatment has often assisted rather than prevented the action of the poison, is, I think, evident.

To introduce a stomach-pump or give an emetic to rid the stomach of poison that may still be there is rational, and we must assume the risk of depression that attends the treatment. When, however, it is not strongly probable that the pump or emetic will bring up poison, it should be scrupulously avoided. Flagellation does accomplish peripheral irritation, and thus stimulates the action of the heart and lungs, but who would use it when a substitute can be had that accomplishes the same thing more efficiently, and does not wound? Cold water dashed in the face or on the body stimulates respiration, but if respiration had to be kept up thus for several hours the premises would be flooded. In the worst cases there is so little circulation that medicines are taken up with difficulty, if at all, no matter how introduced; and if absorbed, I can not determine, after a careful study of the experiences of others and my own, whether they are of advantage or disadvantage.

Atropia is considered by most authorities the best antagonist to morphine; Horsley, Brown-Sequard, and other equally eminent authors, yet assert that atropia administered with a toxic dose of morphine increases the depression. Digitalis does not properly antagonize the action of morphine, for the opium pulse is usually apoplectic, and the heart takes care of itself if only the respiration can be maintained. Every one recognizes the danger of the erect posture while under an anesthetic; why, then, is it not also dangerous when the heart and lungs are about to cease action from morphine? To walk a patient in this condition must be hazardous.

Opium kills by paralyzing the centres of respiration; the indication in its treatment, therefore, is to maintain respiration until the poison ceases to affect these centres. In electricity we have an agent that meets the indication more perfectly than all others. I have had occasion to observe its value in three cases that were moribund from chloroform, in two that would otherwise have been fatal from chloral, and in quite a number desperately poisoned with morphine. The following case is illustrative:

About eleven p. m. of October 5th, I was called with Dr. H. W. Peters, of this city, to see a case of opium poisoning. We found the patient, a delicate man of fifty-five years, *in articulo mortis*. No pulse was perceptible at the wrists, the respirations, or rather gasps, were about three per minute, and the air seemed not to enter the lungs at all. It seemed as if each one would be the last. The entire body was cold, the face was pinched and black, and the reflexes were dead to all ordinary impressions. I passed my finger rudely over the eyeball—a real corpse would have responded as much. Whatever was to be done had to be done without delay. Fortunately we had with us a powerful faradic battery, which we lost no time in making use of. It was applied as follows: Placing the fingers on the posterior border of the sterno-mastoid muscle and pressing it firmly forward so as to uncover the phrenic nerve, one sponge was placed in the space thus formed and held firmly in position. The other was placed over the abdomen, just beneath the ensiform cartilage. The current thus applied caused a contraction of the diaphragm, and consequently an inspiration. On removing the sponge over the abdomen the diaphragm would relax, causing expiration. By thus alternately applying and removing at the diaphragm respiration was kept up at our will. The contractions were at first feeble, but increased in force after a few minutes' steady application. In half an hour the pulse was perceptible at the wrist and the respirations continued, when the current was withheld, at the rate of four per minute. They were labored and shallow, however, and a relapse soon admonished us to resume work with the battery.

While thus engaged endeavoring to sustain respiration and the heart's action, the advisability of using other agents was fully considered, but we concluded to rest our chances with the battery alone. The stomach-pump or emetics could do no good; the poison had been in the stomach long enough to be absorbed. Neither Dr. Peters nor I could recall a single case similar to this in which atropia, digitalis, ammonia, and the other medicines had seemed to be of any decided benefit. Our hopes were in the battery—we used it faithfully, and kept the air-passages clear. At the end of two hours from the time of arrival, the pulse was plainly felt at the wrist, though weak, rapid, and irregular; and the respirations, without the battery, were six per minute—still shallow and jerky, but much improved.

The process first begun was continued five and a half hours longer, with constant improvement in all symptoms, and the patient was now out of danger.

Ordinary means still failing to produce any evidence of returning sensibility, we concluded to test the value of electricity simply as a peripheral irritant. The metal points on the poles were applied to the most sensitive portions of the face, such as the tips of the ears and nose, the lips, and under the eyelids. This was soon followed by efforts to get the face away, then by slight movements of the hands and feet. The irritation was continued not more than ten minutes when the patient convulsively raised himself half up and stared vacantly about him. He was now able to answer questions, and rapidly returned to a clear mental state.

He afterward told us that he had taken ten grains of morphine—that he called for that amount, and saw it weighed out.

The patient had suffered from phthisis pulmonalis, and both lungs were seri-

ously involved at the time of poisoning, certainly an unfavorable condition in which to survive the immediate action of the drug. On the following day he complained of the most distressing pain over the entire chest and right hypochondrium. He had every symptom of intense congestion of lungs and liver, following, I think, the recent blood stasis. Both lungs now rapidly broke down, and on the 14th of October, eight days after the poisoning, the patient died.

The facts of the patient's afterward dying certainly argues nothing against the value of the electricity; on the contrary, that it should have tided him through in spite of his damaged lungs only makes its triumph the greater.

In order to be successful a very powerful current is essential, and it must be used principally with the view of maintaining respiration. No weak or uncertain current will answer, and I am convinced that in the majority of cases where this agent has failed it was due to the use of an inferior instrument, or the improper application of it. Had we in the above case depended upon one of the electrical toys which too frequently enter into the physician's paraphernalia, failure would have been as certain as if we had depended upon drugs. The instrument we used was a nine-current faradic, made by A. C. Harris, of this city, and is a perfect model for power, certainty of action, and ease with which it can be applied. With such an instrument at hand, I believe the deaths from chloroform and ether would also be greatly diminished in frequency.

The Importance of the Hydroxyl Group in Certain Poisons.

In the *London Med. Record*, Nov. 15, 1884, we read as follows: The important relations that have been established between the chemical constitution and the physiological action of organic combinations have taught us much. Thus, while the greater number of the bodies of the hydrogen cyanide type are poisonous, and possess a somewhat similar mode of action, the methyl, ethyl, etc. cyanides are quite innocent. The entrance of the group NO, into benzol leads to the formation of the extremely poisonous body, nitro-benzol, $C_6H_5NO_2$; the same happens in the case of the poisonous bodies nitromethan (CH_3NO_2), nitroethan, etc.; and when the group NH_2 enters phenol, the poisonous body paramidophenol ($C_6H_4OHNH_2$) is obtained. On the other hand the entrance of the methyl group into strychnin, produces a much less poisonous body; and this has likewise been proved in the cases of brucin, codein, morphin, and nicotin. By substitution, it will therefore be seen that very important changes can be effected in the physiological action of certain chemical compounds.

As the results of Wilkowsky's experiments on morphin, it has been established that, when it is given in poisonous doses, the functions of the cerebrum, corpora quadrigemina, cerebellum, and medulla oblongata are successively destroyed. The action of morphin, accordingly, is especially concentrated on the brain, the cerebrum being first affected. To the narcosis there sometimes succeeds a tetanic stage, characterized by an increased irritability of the spinal cord.

The author first describes how he prepared his morphin-ether sulphate, $C_{17}H_{11}NO_4SO_4H_2 \cdot 2H_2O$, and its tests. He next details a series of experiments on frogs, in which corresponding amounts of morphin and its sulphate were administered. While fatal results ensued in the case of the morphin, this did not occur with the sulphate. With the latter the voluntary movements became more abrupt and vio-

lent; then slight narcosis set in, preceded by a series of convulsive jumps which could be excited again to a certain extent by stimulation. By increasing the dose a tetanic condition was brought on, and this tetanus is a characteristic action of the sulphate, which, accordingly, would closely ally it to the codein group. Morphin, $C_{17}H_{19}NO_3$ (HO); morphin-ether sulphate, $C_{17}H_{19}NO_3$ (SO₃H); codein, $C_{17}H_{19}NO_3$ (OCH₃). Codein we may regard as methyl-ether morphin (Grimaux), and thebain as morphin-vinyl ether [$C_{17}H_{19}NO_3$ (OC₂H₅)]. By displacing the hydrogen of the hydroxyl group of the morphin by the ethyl group we obtain codethylin, $C_{17}H_{19}NO_3$ (OC₂H₅). This body acts like strychnin, and is more poisonous and possesses a stronger tetanizing action than codein. In the morphin-ether sulphate, the HO group of the morphin is exchanged for an indifferent group, and it is therefore less poisonous than either codein or thebain, in which the substitution group is not indifferent.

Again, morphin lowers the general blood-pressure and renders the heart-beat and the respiration slower. But the ether sulphate in question exerts no influence on the blood-pressure, and little or none on the pulse and respiration, unless given in very large doses. In men also a marked difference was noted between morphin and its sulphate; for, while $\frac{1}{4}$ grain of the hydrochlorate caused sleep, a ten to twelve times larger dose of the sulphate had no effect.

Under the head of alterations of morphin in the organism, reference is made to the difference of opinion among different authorities as to the constant presence of this alkaloid in urine after its administration. In his experiments, the author could readily obtain the indications of morphin by the methods recommended by Dragendorff, Erdmann, and Husemann, when traces had been added to urine. He was also able to detect it readily by Fröhde or Husemann's reagents, or by means of ferric chloride, as well as by sodic phosphotungstate or phosphomolybdate, in the saliva of a patient to whom it had been administered. In experiments also with dogs, he obtained evidence of the discharge of morphin by the urine, but only in small proportion to that injected, as only the color-reactions of morphin were obtained, but never the crystals. It is, therefore, possible that in its passage through the body the morphin undergoes change, and is excreted in the urine in an altered form. Indeed, when the morphin sulphate was administered, not a trace of it or of morphin could be detected in the urine.

The relation between the sulphuric acid combined with inorganic and organic aromatic bases was next investigated, and it was noted that the entrance of morphin and its sulphate into the organism increased markedly the quantity of the organic sulphates in proportion to the inorganic sulphates in the urine.

According to Baumann's researches, we learn that almost all the phenols are changed in the organism into aromatic sulphates; and if we regard morphin as being related to the phenols, then we can easily explain the increase in the organic sulphates of the urine. It would, in fact, appear that, when given regularly in small doses, morphin passes into the urine, but after large doses, on the contrary, even traces of it may not be met with in that fluid.

When carbolic acid is given in poisonous doses it is, as we know, quickly absorbed, and the animal soon loses its activity and passes into a soporific condition; but at the same time there is increased reflex irritability of the spinal cord, muscular cramps and even tetanus being readily induced; the cardiac contrac-

tions also are weakened, and the irritability of the nerves and muscles is diminished; the blood becomes fluid and reddish-blue in color, the blood-pressure sinks, the small arteries are dilated, and the respiration becomes irregular and superficial. The author's experiments with frogs proved that phenolsulphonic acid, like phenol, is poisonous, though to a less degree.

Certain triatomic phenols were next experimented with. Pyrogallol or pyrogalllic acid and a pyrogallol sulphonate were compared, and the former was found to act as a rapid poison in the case of frogs, while a corresponding dose of the latter produced a comparatively slight effect; the same result was likewise obtained with phloroglucin. Resorcin and its sulphonate were next compared; and, as before, the latter exerted a much less poisonous effect.

Lastly phloroglucin, $C_6H_3(OH)_3$, resorcin, $C_6H_3(OH)_2$, and phenol, C_6H_5OH were compared, and their relative activity as poisons was found to be in the order given, that is, closely related with the HO groups contained in them; for, if we displace these groups with indifferent sulphuric acid groups, this activity is correspondingly lessened, which we have seen also to be the case with morphin and its ether sulphate.

Severe Shock from Electricity.

Before the Cincinnati Medical Society (*Cincinnati Lancet and Clinic*, October 4, 1884), Dr. DUN reported the following case:

A. H., female, aged 23, single, clerk, nervous temperament, good family history. Had been sick for several months with nervousness brought on by overwork. Very strong will, and is energetic and ambitious. Is head girl in one of the large retail establishments of the city, and operates the new cash carrier-ball system at the central office.

On May 28th, about 5 p. m., while operating, the wires of the electric light became crossed with those of the cash-ball system, and she received a severe shock from the electricity. I was summoned immediately by telephone, and arrived about ten minutes after the accident. I found her in the following condition:

Circulation—Face and surface of the body were very pale. Hands, wrists, forearms and feet were cold and bluish, and in a cold perspiration. Pulse 54 per minute was counted at the wrist, was feeble and irregularly intermittent, sometimes missing two beats together.

Respirations were also irregular and intermittent—two or three deep breaths being followed by a long pause, and that in turn being followed by a series of short, rapid, insufficient attempts at breathing, and then another pause. These pauses were very long, and often the first respirations following it were in the nature of gasps.

Brain—Eyes were fixed, pupils dilated, and either inactive to light or extremely sluggish. The play of mental manifestations was very interesting. At first periods of calm and excitement alternated. The periods of calm were not attended by any visible signs of consciousness, while during the periods of excitement, crying and complaints of burning pains in the hands and arms, accompanied with wringing of the hands, were manifested.

The periods of calm gradually vanished, and then the whole state passed into one of lucid intervals and incoherent talk. The first sign of a lucid interval was

about half an hour after the shock. These intervals of reason became longer. She reasoned aloud, and arrived at reasonable conclusions opposed to the wild ravings, and then wondered how she ever made such a statement. The incoherent periods became shorter and shorter, and finally passed into intervals of excitement alternating with spells of crying and laughing, occasionally becoming incoherent again for a few seconds. These became shorter and shorter as her general condition improved, until she was completely at herself. It was soon noticed that by keeping the mind occupied during the lucid intervals they could be greatly prolonged; and similarly, if kept busy laughing the emotional periods could be prolonged, and the incoherent intervals shortened. At 5:45 she had a severe chill, but rallied under treatment, and was taken home about 7 p. m.

This case represents a class of cases which we may expect to see more and more of, now that powerfully charged wires of the electric lights are more liable to come in contact with persons. The case is also of interest because of the unique play of mental symptoms, and the effect of treatment.

The first indications were directed to the circulation. She was laid flat on her back, and covered with as warm clothing as could be obtained. Whisky and digitalis were given by the mouth, with good effect upon the irregularities and intermittence of the heart. The pulse continuing feeble, I gave twenty minutes later ammonia in whisky, which seemed to have the desired effect of strengthening the pulse almost immediately. The hands and feet became warmer, the surface assumed more color, and the bad symptoms of the brain and circulation disappeared. The pulse was now 84, strong and regular. The mind had become normal, and she walked to a carriage with little difficulty, complaining of numbness of the hands and forearms, with little power over the muscles. There were burns on both hands where the wires touched them, and blebs formed. During the night she had another, though milder, chill, and was sleepless. Next day vesicles appeared on both the palms, and pain was felt in the forearms and hands. These subsided, and her recovery has been steady, and is now almost complete. She still has irregular, jerky or weak action of the muscles of the right arm, which was most noticeable when writing, and she says she still feels the effects of the shock on the nervous system, it being particularly noticeable during the violent thunderstorms of the last few days. To all outward appearances, all that is left are the burns and some muscular weakness.

The case was undoubtedly one of severe shock, and called for the usual indications for that condition, and though for a time grave, it has ended happily, and illustrates what I often noticed at the Cincinnati Hospital in the sunstrokes during the summer of 1881, viz., that for an irregular or intermittent heart digitalis is the best remedy, while for increase in force nothing equals ammonia in some form or other.

From an eye-witness I learned that she was seated on a high stool when she received the shock, uttered a piercing cry, and fell to the floor. When they reached her she was unconscious.

The Effects of Alcohol Poisoning on the Heart.

DR. A. S. COE thus writes to the *New York Medical Journal*, November 1, 1884: I have been forcibly impressed with the effects of alcoholic poison upon the

action of the heart in several cases that have come under my observation—cases that gave no evidence of mental disturbance characteristic of *mania a potu*. The mind was clear and rational, save an expression of an overpowering sense of fear of speedy dissolution. The exhibition of anxiety, fear, and sometimes terror, which no assurance from me could allay, was pitiable. This state of mind is instinctive, due to the effect of alcoholic poison upon the action of the heart. It is analogous to the overpowering sense of fear of impending dissolution experienced in angina pectoris, and in the sudden paroxysms induced by fatty degeneration of the heart, but there is no dyspnoea or orthopnoea. The subjects had been drinking daily, for a long time, a large quantity of alcoholic stimulants, until the system had become thoroughly saturated and poisoned. The stomach was irritable and refused to retain food; the pulse small, thready, and intermittent; the heart's action very irregular; the sleep fitful and disturbed, the patients, waking with a start, in a nervous tremor and abject terror, begging for more drink and insisting that they must have it or they would die.

This thirst and craving for more drink are, in a great measure, due to the demand of the flagging heart for support to enable it to continue its work; the demand is imperative, hence the instinctive sense of fear, amounting to, in some cases, abject terror. A heart-stimulant and restorative soon appeases the desire for more stimulus and allays the fear. I found that nitro-glycerin, one one-hundredth of a grain, given every half-hour or hour, soon steadied the pulse and gave strength and uniformity to the heart's action, and caused the importunate demand for more alcoholic stimulus and the abject fear to cease. The effect was almost immediate; the pulse soon became full and steady, and the heart restored to its rhythmic action; the face soon became flushed, and they complained of a sense of cerebral fullness, which soon passed off.

October 22d, about 1 p. m., I was hastily called to visit Mr. D., a resident of the western part of the State, who was here on business, and had, he told me, been drinking during the past three weeks, on the average, fifteen glasses of lager beer a day, winding up each night on a half-pint of whisky to procure sleep. He had vomited twice that morning, felt very weak and nervous, and said that he feared he would no live long. His pulse was small, feeble, and intermittent; the heart's action was very irregular. I gave him one-third of a grain of sulphate of morphine, and prescribed thirty grains of bromide of potassium, to be taken every fourth hour, well diluted with water, until sleep was induced, and ordered a bowl of beef-tea to be taken at intervals as his stomach could retain it. I also ordered entire abstinence from alcoholic stimulus, and trusted to a friend who was with him to see that the order was obeyed.

I called again about 6 p. m., and found him exceedingly nervous and depressed, more alarmed as to his recovery, and insisting that his wife should be sent for. His pulse was a little more steady. He had taken advantage of a brief absence of his friend, and slipped down below and taken two drinks of whisky at the bar, and had vomited some oyster-broth which he had taken in place of the beef-tea. I ordered a continuance of the bromide of potassium, and left one-fourth of a grain of sulphate of morphine, to be taken in the night if sleep was not obtained. He had had about two and a half hours of fitful, disturbed sleep in the afternoon.

I called the next morning at 8, and found him in a deplorable condition; he

was in a violent nervous tremor, the pulse feeble and intermittent; he was sure that he would not live much longer, and insisted that his wife should be sent for immediately. His friend told me that he had had two intervals of sleep of about two hours and a half each, waking up each time in a nervous, frightened state and begging for more stimulus, which he had refused to give him; he had vomited the morphine and bromide of potassium. I immediately gave him an ounce of whisky and a pill of nitro-glycerin. I remained by him about an hour; his pulse immediately began to gain strength, fullness, and steadiness, which continued about half an hour, and it then began to grow weak and unsteady. I then gave him another pill, which soon restored the strength and evenness of the pulse, and he ceased his abject entreaties for more whisky, which up to that time had been almost constant, and expressed no more fear of dying. His stomach remained irritable through the day; he was only able to retain small quantities of iced milk; the pills were repeated every second hour until the afternoon, when they were discontinued, as his pulse had recovered from its weakness and irregularity. He was able to return to his home the next day.

An acquaintance, of unusual strength and vigor of constitution, has studied the effects of alcoholism upon his own person; it invariably causes an irregular and intermittent pulse and irregular action of the heart, but seldom affects his brain.

Poisoning by Carbolic Acid—Severe Bronchitis—Recovery—Comments.

Dr. SIDNEY COUPLAND reports this case in the *Lancet*, Oct. 18, 1884: A well-nourished, healthy little boy, aged three years and a half, was admitted into Cambridge ward on Aug. 16th, having taken half an hour previously a small quantity of a solution of crude carbolic acid used for disinfectant purposes. His breath smelt strongly of the acid, and there were some excoriations about the lips. He was in a state of extreme collapse, with cold clammy extremities; shallow, labored respiration, and all but pulseless. In the out-patient room four drachms of ipecacuanha wine and a small enema of beef-tea and brandy had been administered, and after being put to bed hot-water bottles were placed to the feet and in the axillæ. As the emetic took no effect, a hypodermic injection of apomorphia, one-tenth of a grain, was tried. In a few minutes the child made an attempt to vomit, his mouth and nostrils became clogged with yellowish mucus, his face grew livid and cyanosed, and he was all but asphyxiated. His throat was swabbed out, and the natural color in some degree returned. The general depression, however, was much worse, and the child seemed hovering between life and death. Pulse thready, fluttering, and scarcely perceptible; respiration 90, very labored; loud mucous râles audible over the whole of the chest, and his motions passed under him in the bed. Ten minims of ether were injected subcutaneously into the arm. A second enema, containing two ounces of beef-tea and half an ounce of brandy, was administered per rectum, to be repeated every four hours, and a linseed jacket-poultice was ordered. Under this treatment he rallied, and at 10 p. m. was sleeping quietly, to all appearance free from any danger beyond a severe attack of bronchitis. Respiration 66; pulse 120; temperature 102.2°. His urine was passed under him in the bed, so that it was impossible to

examine it for evidence of the poison. He slept at intervals through the night, but vomited three times; the vomit contained no blood.

Aug. 17th.—Respiration had diminished in frequency to 36, but the physical signs of bronchitis remained unaltered. He passed a comfortable day, but towards the evening was seized with severe dyspnœa and became very cyanosed. Respiration 100; pulse 120. He was ordered an expectorant mixture with ten minims of spirit of sulphuric ether and five minims of antimony wine every four hours. Curtains round cot; steam kettle; linseed poultices to be continued. Ordered two drachms of brandy in enema every four hours, and half a drachm by the mouth every hour. 12:30 a. m.: Respiration more tranquil, and cyanosis greatly diminished; but the child was so restless that it was found impossible to keep him covered up. Temperature 102.4°.—18th: The child passed an extremely restless night, but was evidently much better. Respiration 72; pulse 120; temperature 101.4°. Bronchitis still severe, but unaccompanied by expectoration.

From this date the child made steady progress to convalescence. The medicine and stimulants were gradually withdrawn, and on August 25th he was allowed ordinary diet. His recovery was marked by extreme restlessness, and a vacuous, almost idiotic expression. He could not be induced to speak until two days before his discharge on September 1st.

Comments.—The following points with regard to the case are of interest:

1. Where a rapid and efficient emetic is required, ipecacuanha wine is practically worthless on account of the time it requires to act, and possibly owing to the fact that unless the bottle containing it is well shaken, little but sherry is administered—a practical point too often forgotten at the moment. Apomorphia is efficacious, but depressant to a dangerous degree. As an emetic nothing surpasses the household remedy of mustard-and-water. The sulphates of copper or zinc are equally good.

2. In cases of carbolic poisoning in children, the main effort should be to arrest the dangerous state of shock and collapse which is invariably present, and to apprehend a severe attack of bronchitis and give it prompt treatment. This is a clinical fact which has been well exemplified in several cases admitted of late into the hospital. For apart from its immediate local effect, carbolic acid appears to be very liable to excite broncho-pulmonary irritation; and fatal cases of pneumonia due to carbolic poisoning are sometimes witnessed.

3. In the present case the long continued condition of mental depression which supervened was remarkable, and must be attributed either to the initial "shock" or to the direct action of the poison on the brain.

Poisoning by Veratrum Viride.

Dr. R. W. WALMSLEY, of New York, reports this case in the *New Orleans Medical Jour.*, Oct. 1, 1884.

On the 28th February, about 11 p. m., I was called to attend a lady who had taken, by mistake a teaspoonful of the officinal tincture of veratrum viride. When I arrived, about twenty minutes after the ingestion of the poison, I found the patient in bed restlessly tossing around, and sitting up at frequent intervals, as she experienced considerable dyspnœa. She could scarcely be persuaded to lie

quiet, for she seemed to be overwhelmingly impressed with the fear of impending dissolution, and was in fact in a deplorably nervous condition. She complained also that at intervals everything grew dark around her.

I found her fingers and toes cold and together with her forehead covered by a cold, clammy sweat. The pulse was feeble, small, somewhat thready and rapid; beating one hundred and thirty times a minute. The pupils were dilated though not widely so, and the whole countenance wore an exceedingly anxious expression.

An emetic of mustard and warm water was at once administered. For, though there had been a great deal of nausea, there had been no vomiting. The patient was enjoined to keep perfectly flat on the bed, and was not even permitted to sit up to vomit, her head being held over the side of the bed for that purpose. As soon as free emesis had occurred two tablespoonfuls of brandy were given and retained. A few moments after this, as the heart was still acting tumultuously, the dyspnoea increasing and the clamminess extending further up the limbs and beginning to invade the whole surface of the body, a quarter of a grain of the sulphate of morphia was hypodermatically given. At the same time her limbs were briskly rubbed with coarse towels, in order to restore warmth and circulation. Ten minutes afterwards the character of the pulse was slightly improved, becoming stronger, fuller and less frequent. I had just taken my fingers from the wrist when the patient exclaimed: "I cannot breathe," and at once lost consciousness. There was no impulse perceptible in the radial, so I placed my ear over the heart, but I heard nothing. As there were one or two slight efforts at respiration, I injected some aqua ammonia into the median vein without any result.

Some ten days previously the lady had been under my treatment for a mild attack of acute bronchitis. She improved greatly, so that attendance was discontinued. A few days afterward she caught a slight additional cold and called in an infinitesimalist, a part of whose treatment consisted in drop doses of *veratrum viride* every two hours. To none of the family did she seem very sick and the same diagnosis was made by the homœopathist as by me. Some six doses had been administered, according to his directions, during the day. He had left in the room a bottle containing about two fluid drachms of the official tincture that he had obtained from a neighboring drug store. This he did not have labelled nor did he acquaint any one in the house of its poisonous nature. Intending to give some valerian to the patient, from a similarly-sized bottle, standing on the same table, the nurse administered the *veratrum* instead. This was swallowed undiluted after an entire abstinence from any food of several hours; so that the stomach must have been entirely empty. In fact, after the exhibition of the mustard and water, nothing but that was vomited.

After death had ensued, I took the bottle with the remainder of its contents, to the druggist from whom it had been obtained. He is a most reliable, accurate and intelligent man, and he assured me that not more than a fluid drachm had been taken from it. So that, though the quantity of the drug that was taken is smaller, as far as I can ascertain, than in any recorded fatal case of *veratrum viride* poisoning, still the symptoms, as they were presented to me, were too characteristic to allow any room for doubt.

To Prevent Hydrogen Explosions.

The *Popular Science News* says: In the use of mixtures of oxygen and hydrogen for the calcium-light and other purposes, explosions are liable to occur, unless the mixed gases, before being ignited, are passed through some kind of a "safety-chamber," or other device impervious to flame.

Those who wish to make their own safety-chambers can easily do so by cutting a piece of tin or brass tubing about three-fourths of an inch long by half an inch wide, and filling it with slate-siftings. A disk of wire-gauze, sixty meshes to the inch, must be placed at each end, as before described; and the tube may then be attached to the jet by a connector of vulcanized rubber. To prepare the siftings, crush two or three slate pencils in a Wedgewood mortar, and throw the coarse powder on a sieve of thirty-six meshes to the inch. All that passes through must be screened from dust by a second sieve of sixty meshes to the inch, and the rough pieces left on the first sieve returned to the mortar for further pulverization.

After the tubes have been long used, the wire-gauze is apt to become rusted and choked up; so that from ten to fifteen per cent. is taken off the pressure of the gas, independently of the granules. The lecturer should accustom himself to examine the tubes beforehand by drawing air through them with the breath, and should put in fresh gauze whenever it is required. This can be done in a few minutes, if the tubes be made to open at both ends; and they can be rendered gas-tight by a small washer of lead, or, better still, by springing a piece of vulcanized rubber over the whole length of the tube, flush with the milled heads of the caps at the ends. If the red rubber be used, it will present a very neat appearance; and, when once the rubber is on, it will not be necessary to remove it in unscrewing the caps. Tested by suction, the tube will be found to be quite air-tight if the screw has been greased with a little tallow.

Raising Ferns From Spores.

It is commonly regarded as no easy thing to raise ferns from the spores, but an English gardener gives the following directions for doing it: Procure a good-sized bell-glass, and an earthenware pan without any holes for drainage. Prepare a number of small pots, all filled for sowing; place them on the ground; water them well with boiling water to destroy all animal and vegetable life, and allow them to get perfectly cold; use a fine rose. Then, taking each small pot separately, sow the spores on the surface, and label them; do this with the whole number, and then place them in the pan under the bell-glass. This had better be done in a room, so that nothing foreign can grow inside. Having arranged the pots, and placed the glass over them, which should fit down upon the pan with ease, take a clean sponge, and, tearing it up, pack the pieces round the outside of the glass, and touching the inner side of the pan all round. Water this with cold boiled water, so that the sponge is saturated. Do this whenever required, and always use water that has been boiled. At the end of six weeks or so the prothallus will perhaps appear, certainly in a week or two more; perhaps from unforeseen circumstances not for three months. Slowly these will begin to show themselves as young ferns, and most interesting it is to watch the results.

As the ferns are gradually increasing in size, pass a small piece of slate under the edge of the bell-glass to admit air, and do this by very careful degrees, allowing more and more air to reach them. Never water overhead until the seedlings are acclimatized, and have perfect form as ferns; and even then water at the edges of the pots. In due time carefully prick out, and the task so interesting to watch is performed.

Toxic Alkaloids in the Urine.

The *Lancet*, Nov. 1, 1884, says: The presence of toxic alkaloids in the urine, and in certain pathological liquids, has been studied by MM. POUCHET, SELMI-BOUCHARD, and more recently by MM. LEPINE and GUÉRIN. Alkaloids were discovered and separated from the urine in two cases of typhoid fever. When the alkaloids were injected into the lymphatic sac of frogs death followed, and the heart was observed to beat slowly before, and to be large after, death. When the alkaloids derived from the urine of pneumonic patients were injected into the lymph sac of a frog, the heart ceased to act in the systolic period, but without previous slowing of its rhythm. It appeared to be true that the urine of patients suffering severely from typhoid fever contained more alkaloid than a similar quantity of urine from a patient suffering from a slighter attack. In one of the cases of pneumonia it was discovered that the urine on the day after defervescence contained but little alkaloid, and this was not of toxic nature, whereas two days before the urine contained much poisonous alkaloid. These recent researches confirm the statement of M. Bouchard that the urinary alkaloids undergo augmentation in certain acute diseases. It was also proved that liquid extracts from the cadaver do not necessarily hold toxic alkaloids in solution.

III. MATERIA MEDICA AND THERAPEUTICS.

Modern Progress in Materia Medica and Therapeutics.

Dr. E. K. SQUIBB, of Brooklyn, publishes the following paper in his "Ephemeris" for November, 1884:

Twenty-five years experience in supplying a small part of the medical profession with some of the established articles of the materia medica, suggests a retrospect of what has appeared to be the progress made in the remedies used, and the use of remedies in the treatment of disease.

The very large and important modern progress in the discovery and application of new remedies, and the improved views and processes of the books and journals, are not to be considered here, but only the elements of that slow and substantial progress made among that class of close observers scattered all over the nation, who learn most and improve most on their own observations and experience—who read much, but rarely write, and are rarely seen in the medical societies, and whose progress, therefore, has to be inferred from the use of the materials they employ in the practice of their art. The number of those who are quite outside of the medical organizations, or who are simply enrolled without taking any active part, is very large indeed; and their value and influence in the profession is very great, and is generally conservative and good.

From a pretty close association with some of this class in all parts of the country, through their correspondence and a certain familiarity with their wants in the materia medica, when not prompted by the ubiquitous drummer and his wares, the following points of progress are either indicated by facts, or inferred from collateral circumstances; and the points are made here, in the loose form of inference, not simply nor principally as a retrospect of the past, but as being of much more importance in the progress of the future.

That is, modern progress is taken in the sense of learning from the advancement of the near past what to work for and look for in the near future.

First, the thoughtful physician seems more and more to realize the fact that his success as an individual, as well as the success of his profession, depends upon his real utility to the public. As the age grows more and more utilitarian, so the profession has answered and must answer to this progress. The demands of the public upon the medical profession are that disease be prevented as far as practicable, be successfully managed when it comes, and that its damages be skilfully repaired; and in proportion as these demands are rationally and successfully met, will be the standing of the individual and the profession to which he belongs.

This public, though much interested in abstruse researches and ingenious speculations and theories of health and disease, is only entertained or amused by them, and the profession not only gets little substantial credit for them, but often

has them turned against it in ridicule. All this is becoming better understood and realized, and the physician is looking more and more carefully, not only for knowledge, but for the means of applying it. He makes the accurate investigation of disease, but does not rest there, but tries to control the abnormal conditions found. Much less is heard of expectancy;—much less of “Young Physic,” than formerly. Active agencies carefully studied and skilfully used are much more common now, and the search after such agencies is even becoming hurtfully keen, so that there is danger of the opposite extreme from the former expectancy.

Instances might easily be given of individuals of no uncommon attainments or opportunities, gifted with neither the polished manners nor liberal morals which so often contribute to one kind of success, but fairly equipped with the known means of controlling disease, who, often in frontier populations, within five or ten years, show to the communities in which they work the utilitarian value of a doctor, and through him of his profession also. Success to his community means success to him and to his profession at large. And the success which begins in the actual results of his skill and labor in his community, endures and increases just in proportion to its utilitarian character. Thermometers, urinometers, litmus paper, test-tubes, and a few reagents, are always found in the orders of such physicians, and plain microscopes, and even sphygmographs, occasionally. Their *materia medica* proper is commonly simple, the articles not numerous, but effective, and rarely outside of the *Pharmacopœia*, and their orders for the newest and best advertised remedies are often conditional, always in very small quantities, and as a general rule, not repeated.

Few will doubt the dependence of the profession for success upon its utility to the public, and very much of this utility must always depend upon therapeutics, and this in turn upon the *materia medica*. Hence, if there be a progress in *materia medica* and therapeutics, it is an improvement of the very foundation upon which the medical profession rests, and its importance in the future can hardly be over-estimated.

Another important reformation that appears to have been slowly and steadily going on in the near past, is in the value of the word cure. The old idea of specific or particular diseases and specific cures seems to have undergone considerable modification for the better, not only in the intelligent portion of the people, but also in the medical profession. That diseases are all so many definite entities, for each of which there is a special cure or antidote, if it could only be discovered; and that incurable diseases are only those for which cures have not yet been discovered, but for which they may be discovered at any time—is a doctrine which common education in the sciences is steadily bringing into a newer and truer light. Many physicians successfully treat disease—if not diseases; but very few undertake cures. Neither do intelligent persons call physicians with the unmodified idea of being cured. But they rather seek for skilled advice, and submit themselves with more or less confidence to be so controlled that they may have the best chances of speedy recovery. And when well, they are not so often, in their own language—and still more rarely in that of the physician—cured, but have simply recovered. Modern progress seems to indicate that the farther both the public and the profession get away from the old meaning of this word cure the better; for when it is properly understood in the modern light of cause and

effect, much complex, indiscriminate drugging will be saved, and the dealers in cures—from corn cures to cancer cures—will have their mercantile enterprises better understood. If modern therapeutics is coming to have less and less to do with cures, in the old acceptation of the word, then *materia medica* is surely equally progressive; for there are probably hardly any now who believe in the possibility that any drug should cure any disease, and therefore it is doubtful now whether there be much chance left, in the profession of medicine at least, for repetitions of the episodes of Cundurango, Missisquoi Water and Mud, and Chian Turpentine. But as the doctrine of cures disappears, the utility and certainty of remedial agents become better established, so that the modern progress is attained in both directions.

Another element in the progress of the near past is a gradual and steady emancipation from the trammels of arbitrary doses of medicine. Physicians are no longer satisfied now with the doses given in the books. With increasing knowledge and broader views they now look for effects, and the time is, perhaps, not far off when the only use of stated doses of medicines will be to know what quantity to begin with. It has come to be very commonly recognized that different persons, and even different conditions of the same person, are very differently susceptible to the action of medicines, and that within certain limits, quantities must be adjusted almost to each individual case. In three successive cases of confirmed epilepsy in adults, the number of seizures were not sensibly reduced short of 100 grains of bromide of potassium a day in one case, 160 grains in a second case, and 240 grains in the third case, and these quantities produced only moderate bromism. Had the doses of the standard books been adhered to, two out of the three cases would have been unimproved by the medicine.

There are cases wherein the ringing in the ears will be caused by 2 grains of sulphate of quinine, and there are others which require 60 grains to give this sign of saturation, and there are persons in whom different quantities are required at different times. To treat a recurring malarial fever without recognizing these facts is to fail of success, and discredit both the physician and the medicine in a considerable number of the most difficult cases, where most credit is to be gained. Dr. Wm. H. Van Buren, more than twenty-five years ago, emphasized this liability to be trammelled by arbitrary doses. In the treatment of consecutive syphilis he found a number of cases recovered under the use of 40 grains of iodide of potassium a day. But others were not impressed by less than 100 grains a day, while few required 480 grains a day to give similar results. His teaching, and that of others who followed him, applying the same principle to other agents, have done much for the modern progress in this important matter of doses; for it is generally realized now among the best therapeutists that no remedy can be properly considered as having failed until it has been pushed to a physiological or a pathological effect.

There has also been a very important progress made in the knowledge obtained and applied in scrutinizing the quality of medicines, and that has resulted in the production of a better class of medicinal agents than was ever before attained. And it is of no small advantage to have learned that this close scrutiny and discrimination by individuals throughout the length and breadth of the land, is far the most effective way of checking adulteration, and the mismanagement of care-

lessness and ignorance and cupidity in the vending of medical supplies. Year by year more physicians realize the fact that the drummer is not their safest dependence, drum he never so wisely, and they listen to his voice and take his samples more warily, trusting rather in their own ability to judge of the agents which are so important to them and their patients.

Every year more Pharmacopœias are sold, and more physicians confine themselves mainly within its scope, and more tests and re-agents are used; and now that the Pharmacopœia has a full set of official test-solutions, it may be confidently expected that still more physicians and pharmacists will learn to apply them in this important interest of effective medicinal agents. All physicians who want to know it, know now that it is not in the writing of papers on adulterations, nor the resolutions of societies, so much as the individual knowledge, care and watchfulness of each physician for himself, that secures to him the character of his supplies. It has always been the case that good supplies could be easily obtained by proper care and scrutiny; but it has never been so easy as it is now, in consequence of the general improvement in the quality of supplies, and the wider market for selection.

Moderately good and poor qualities are as plentiful and as cheap as ever, but the physician, having learned that cheap supplies is poor economy, is upon his guard if he desires to be. He has also learned that high-priced supplies are not always the best, and hence his safety lies only in his own testing processes, and in avoiding complex remedies, and forms of medicines which it is difficult or impossible to test.

Another element of progress notable within the past few years is that physicians use fewer and more active agents, and use them more simply. The time for complex prescriptions, and for using several agents at the same time, seems to be passing away, and physicians do not go from one preparation to another so easily as heretofore. The using of a few definite agents, and knowing from personal observation just what they will do, is of such manifest advantage that it would be strange indeed if there was no progress here. Physicians' orders, from being long, and embracing many doubtful and indefinite articles, and many duplicates, or articles used for similar purposes, are now short and compact in the main. Ten to fifteen standard medicines at a time is about all an ordinary physician wants, and this, about twice or thrice a year, keeps up a supply of not over double that number of agents in all, for common daily use. This enables him to watch the qualities better, and keep his stock fresh and in the most efficient condition.

Much progress has also been made in using more concentrated forms of medicines. Decoctions, Infusions, Vinegars, and Wines have almost gone out of use, while Tinctures and Syrups are steadily falling into disuse, though not as rapidly as they deserve. These are all replaced by the far more accurate and convenient Fluid Extracts, with their small and effective doses, which can be so easily administered in so many different ways. Thus the physician and pharmacist, instead of having to keep two or three preparations of the same drug to get stale on his shelves, has to keep only one, and this the best and most accurate one.

Much has also been gained in the precision with which medicines are measured for administration, and the measuring apparatus has been much extended and much improved in accuracy, so that it is not difficult now to get fairly accurate weights and measures at a reasonable cost.

The many and great advantages in the use of the salts of a few alkaloids have led to the extreme of seeking to extract and use the active principles of drugs, instead of the preparations of the drug, in all possible cases, and there are many excellent reasons for this if it were only practicable. Unfortunately, the so-called active principles rarely represent the drug from which they are taken either fully or fairly, and are of such variable strength that they are less trustworthy than the drug. Beside this, many of the alkaloids and nearly all the glucosides are so loose in their molecular structure, that they split up and become partially or wholly inert without change in appearance, and under circumstances that are not known. Physicians who examine most closely into the character and processes of extraction of many, if not most of these so-called active principles, will see that they are frequently the result of the chemistry applied for their extraction, and that they do not pre-exist in the drug, and therefore can only partially represent it.

Finally, perhaps the greatest progress of all has been in the power and definiteness of the agents used, and in judging of the manner and effect of using them. Many years ago, when among the first of the very definite and powerful agents, the American Hellebore, came into use for controlling the action of the heart, it was objected that its use was merely controlling a symptom of disease without going to the root of the matter at all. The pneumonia went on all the same, and perhaps the depressing action of the drug was simply added to the depressing action of the inflammation, and harm rather than good might rationally result. It took some time to show by actual experience that the drug could be given in controlling quantities without more depression than was needed in a sthenic disease, and that the lowering of the pulse rate by fifteen to twenty per cent. meant the sending of fifteen to twenty per cent. less of inflammatory blood through an inflamed, congested, and oppressed organ, whose obstructed functions were threatening life, and therefore that treating this pulse-symptom was really treating the whole of the disease, by controlling its prominent element. It was thus clearly recognizable that by subtracting one prominent element or symptom from the group which constitute a disease, the bond is broken, and it then tends to disintegration, just as when an atom or a group of atoms is subtracted from a molecule, it splits up and loses its identity and its reactions.

Then, when bromide of potassium was successful in controlling the seizures of epilepsy, it was objected that it merely controlled the expression of the diseased condition, without affecting that condition, since when the medicine was omitted, or was used in too small quantity, the seizures would recur. But in the progress made in the near past it has been abundantly shown that when the bromide is skilfully managed, and continued through a long time, with great perseverance and care, for a sufficient length of time after the attacks have ceased, many patients are no longer in the condition which caused the attacks, and that thus in treating the principal symptom the condition causing it has also been treated successfully.

Again, in those agents which simply reduce temperature,—take, for example, the use of salicylates in acute rheumatism,—the effect is to control one symptom primarily; but it happens that through the close relationship of symptoms, two others of equal importance are also controlled, namely, the pain and swelling. It

is maintained that the disease goes on and commonly runs its course; but it is admitted that it is occasionally cut short, and that it is almost always rendered comparatively free from high fever, pain and swelling,—that heart damage is less frequent and less serious, and that relapses occur less frequently.

It is needless to multiply examples to show that great progress has been made in the acquisition of definite agents and in the knowledge of how to use them; and should the next ten or twenty years prove as fertile in the resources of the medical art as is indicated by the progress of the past, the profession will occupy a much higher position in the estimation of the public than it now does.

It should not be inferred from the above that all the prominent changes in relation to the materia medica within the past few years have been improvements, or for the good of either the profession or the public, for much doubtful medication has grown into common use among large numbers of physicians who do not seem to stop to think where the mercantile enterprise of the manufacturer is carrying them.

The Therapeutics of Electricity.

Dr. W. E. STEAVENSON read the following paper before the last meeting of the British Medical Association:

Electricity, as one of the physical forces, is constantly exerting its influence on everything around us, and no doubt influences our well-being far more than we have been ready either to admit or suppose. Its nature is still a matter of doubt; but it is most likely only a modification of motion, as is also supposed to be the case with heat and light.

All physicians recognize the effect that light and heat have upon health. We know that the children of our close alleys in large towns are pale and anæmic, chiefly from the deprivation of sunlight; and we also know the blanching effect produced on plants by keeping them in the dark. But we very seldom take into account the effect of electricity upon health; and yet such a powerful agent, that is continually varying and influencing our climate, must have a most potent influence upon such a delicate organism as the human frame. When gross and rapid changes take place, as on the approach of a thunderstorm, we all know that many people are most powerfully influenced. Slight variations in the electrical condition of the atmosphere are continually taking place, and localities in very near proximity vary considerably. This is well known to telegraphists, for the earth-currents produced by this cause are a great source of annoyance, and one of the chief reasons for the perpetuation of overhead wires. These varying electrical conditions of contiguous localities have perhaps more influence than any other cause in producing the differences of climate, often noticeable within very short distances. Dr. Parkes, in his work on *Hygiene*, says that electricity and light "are important parts of that complex agency we call climate seems clear, but little can be said on the point. In hot countries, positive electricity is more abundant; but the effect of its amount and variation on health and on the spread and intensity of disease is quite unknown." That electrified masses of air are continually moving at no great distance from the earth's surface has been proved by Sir William Thomson; and that the electrical condition of objects on the earth's surface must be affected by their inductive influence is quite certain, and

human beings must participate in these changes. The question of animal electricity was exhaustively discussed by Professor McKendrick at the meeting of the British Association at Southport in September of last year. He denies the existence of a centre for electrical separation in the human body, but allows that such a centre or apparatus for the production of electricity does exist in some animals and fishes. Whether we possess a specific centre for the production of electrical separation, or not, it is quite certain that electrical separation does take place in the human body. All the vital processes, such as respiration, digestion, assimilation, and secretion, are accompanied by chemical changes, and all chemical processes are accompanied by the production of free electricity. Professor McKendrick showed that every muscular contraction produced electrical currents. It has been frequently shown that the electrical condition of individuals is much influenced by their state of health. The relation between nerve-force and electricity is still an undecided question. That they bear some relation to each other is admitted by many physiologists, although it is generally allowed that they are not identical.

When it is known that electricity plays such a prominent part in all vital processes, it is not an unwarrantable assumption to suppose that, if properly applied, it may prove to be, and indeed has proved to be, a most useful therapeutic agent. There is no doubt that electricity is one of the most powerful nerve-tonics that we possess. No agent so quickly restores the depressed condition of the system consequent upon severe and long illnesses. In all states of nervous depression, as from long mental strain or overtaxed bodily powers, general galvanism has proved a most invigorating and refreshing tonic. Dr. Poore proved, by the use of the dynamometer, that, when the muscles of the arm had been exhausted by squeezing the instrument, their strength could be restored by the passage of a galvanic current; and the persons on whom he experimented were, after galvanism, able to use more force, as represented by pounds' weight, than they were at the beginning of the experiment, before the muscles were at all tired.

In the way electricity has been used, up to almost the present time, its good effects have not, as a rule, been demonstrated or made manifest. It has chiefly been used as an aid to diagnosis; and when used as a therapeutic agent, there has been a looseness about the kind of electricity employed, and about the description of the cases reported, which has led to much confusion and distrust in its merits. Not long ago, a case of asthma was reported, in a medical periodical, as cured by galvanism. I wrote for the particulars of the case, and found, as I had supposed, that faradism had been used, and not galvanism at all.

The necessary apparatus for carrying out the different modes of electrical treatment, and the kind of electricity suitable for each individual case, includes a number of different batteries and accessories, which are difficult to obtain except in a place set aside expressly for their use. This necessitates the establishment of regular electrical rooms, such as are now being added to all the London hospitals. A description of the one lately started at St. Bartholomew's Hospital will be found in the last volume of the *St. Bartholomew's Hospital Reports*.

In the use of electricity as a mode of general treatment, I see many difficulties. In the first place, it would occupy too much of the time of men in active prac-

tice; and in the second place, batteries are very expensive, and are often getting out of order and requiring repair. This entails much loss of time and a continual additional expense. If treatment by electricity become at all popular, there is, I am afraid, a chance of patients applying for such treatment at the hospitals, if they be admitted to those institutions, as at present, without any questions being asked; and this would cause a great loss and injury to men in general practice. I have asked Messrs. Coxeter, of Grafton Street East, in London, who fitted up the electrical department at St. Bartholomew's Hospital, to exhibit to you the batteries I have found most useful for electrical purposes, and which I have recommended to medical men in practice in different parts of the country when they have asked my advice. The best form of constant-current battery is that made up of the Leclanché cells. Leclanché cells are composed of a plate of zinc and a plate of carbon, with some bin-oxide of manganese, and excited by a solution of chloride of ammonium. This is the best form of constant-cell for medical purposes, and is not in action when the battery is not being used. With due care, a battery composed of these cells ought to last eighteen months or two years without requiring any repair or recharging. I have now a battery of Messrs. Coxeter's in use at St. Bartholomew's, which I have had since November, 1882; it has not yet been out of order, and it has had more work than I should think any of you are likely to require of a battery. Of interrupted-current batteries, the one shown here by Messrs. Coxeter is a very good and useful one. The bi-chromate of potash battery, which I believe goes by the name of Morell Mackenzie's battery, and is made in London by Messrs. Mayer and Meltzer, is a very useful form of battery, and gives a most powerful current. The objection to it is, that the zinc is so often left immersed in the exciting fluid that the fluid becomes exhausted, and the zinc almost eaten away. For electrolysis, a battery of Leclanché cells can be used; the larger sized cells are preferable, as the small ones quickly become polarized. For the purposes of galvano-cautery, I have found Messrs. Coxeter's zinc-and-carbon battery, excited by the bi-chromate of potash solution, very useful. The elements are arranged in a different manner from that required for a constant-current battery. The object of a galvano-cautery battery is to obtain a large quantity of electricity; therefore, all the zincs are joined together, and all the carbons are joined together. In this battery before you there are only six cells, but a very large surface of the elements is exposed to the exciting fluid in each cell. The electro-motive force is not greater than six smaller cells would produce, but the quantity of electricity is very much increased.

For applying static electricity, an insulated couch and benches are necessary, and a frictional machine. These are much too cumbersome to move about.

The galvanic belts and portable batteries, so extensively advertised, are not of the slightest use, and are great impositions on the public. If it were possible to pass a weak current of electricity through the body, or any part of the body, for an indefinite time, no doubt great tissue-changes would take place. It would be impossible for such a powerful agent—one capable of splitting up all chemical compounds—to be passed through the body without causing great changes. But the skin offers such a resistance to the passage of electricity, that the body may almost be said to be insulated. No weak current, such as is produced by these battery-belts, could pass through the skin. If one pole from the battery-belt be

applied to the body, and a galvanometer introduced between the body and the other pole, no deflection of the needle can be detected. If the current from these appliances were strong enough to overcome the resistance of the skin, sloughs would, in a short time, be produced at the points of application of the electrodes, a sore first appearing at the point of application of the negative pole. The same objection holds good with regard to the electric brushes; no battery that they can contain could produce a current strong enough to penetrate the skin of the scalp. That brushing the hair relieves headache I am not going to deny, and possibly it may do so through electrical influence. On all occasions, brushing the hair produces electrical separation; and, in certain people, during dry conditions of the atmosphere, sparks may be seen emitted during the process, that is, if the hair be brushed in the dark.

There is no way of applying electricity for curative purposes except by moving about the electrodes, and by applying it locally and intelligently for the particular affection it is intended to relieve. Its application should not pass out of skilled hands. If, in certain cases, a medical man should, after instructing a nurse, allow her to apply it, as in a case of infantile paralysis, which requires the treatment every day for months, he should still hold himself responsible for the treatment, and, from time to time, see that it is being carried out properly. There are so many points at which electrical treatment may break down that it is impossible to prescribe it for the public for self-application without bringing the whole method into disrepute. In these cases of infantile paralysis, to which I have alluded, where parents are seldom able to afford the expense of the continual application of electricity by a qualified man, I have found the most absurd mistakes occur, even when a nurse has been duly instructed in the mode of application. Parents have complained that they see little improvement in their child, and, on examining the battery, it is found that there is no current generated, possibly there has been no current passing for weeks, but the nurse has been diligently rubbing the leg daily with the electrodes attached to the battery. At another time, the nurse is asked to go through her usual performance to show how she does it, and it is found that she has been diligently rubbing the inside of the leg from the time she was first instructed, when the region of the peronei muscles and tibialis anticus had been particularly pointed out. Many of these mistakes occur with adults. They mix up the positive and negative poles, or, when electricity is advised for some abdominal complaint, they buy a magneto-electric machine, hold the two handles, and allow a very unpleasant current to pass from one arm to the other; the rest of the body being left almost completely out of the circuit. As no beneficial result follows, they lose their faith in electricity.

In cases of paralysis, due to cerebral lesions, that is, when rigid arteries are known to exist, or when softening of the brain is expected, the employment of electricity is not unattended with danger. In fact, fatal apoplectic fits have been known to follow quickly on its use (Golding Bird).

In cases of contraction and rigidity following hemiplegia, the result of a descending irritative lesion of the lateral columns arising from the seat of the injury in the brain, the use of electricity, although generally recommended, has not, as a rule, been found to produce much benefit. It very possibly prevents matters from becoming worse, or, at least, retards the progress of the contraction. If let-

alone, the contraction has been known to be so great that the finger-nails have been pressed into the muscles of the palm of the hand. I have lately had under my care a case sent to me by Sir James Paget, of a young man who was thrown from his horse on to his head, and thereby received some injury to the brain. The accident was followed by right hemiplegia and aphasia. I first saw him six months after the accident, when a great improvement had taken place in his general condition; but there was a progressing contraction, and rigidity of the right forearm and hand. Any attempt to open the hand was accompanied by convulsive trembling; this was also present, to a less extent, on attempting to extend the right leg. Ankle-clonus was most easily induced. I was asked to treat the case with electricity, and have galvanized and faradized the limbs for several months, three times a week. The treatment has been followed by most satisfactory results. I must say that, from previous experience of cases of late rigidity, I undertook this case with some misgivings, hoping only to retard the mischief, or, at best, to arrest it at the point it had already reached; but, at the present time, my patient's hand is often perfectly extended and open without any voluntary effort, and, if closed, can be easily opened with the slightest amount of trembling. The starting and trembling, which have been so troublesome in the leg, now do not occur, and, in every way, the case looks most promising. It is difficult to say how far improvement may continue. It is only fair to state that my patient is only 24 years of age, and in good health in other respects.

I have also under my care at St. Bartholomew's Hospital a man who was supposed to have broken some of his lower dorsal vertebræ, and severely injured the spinal cord. After being in a paraplegic condition for some months, he gradually recovered the power of motion in his lower extremities; but soon symptoms of lateral sclerosis became manifest. He suffered from gradually increasing rigidity of the legs, often suddenly increased in paroxysms. He also suffered from severe tremblings and sudden contractions of his limbs when in bed. The rigidity and contraction of the muscles prevented him from stooping to pick anything off the ground, and from lacing his boots; and he walked with a most marked spastic gait. He was sent to me for electrical treatment about eight months ago, and has been galvanized pretty regularly twice a week since then. For the last two or three months, the rigidity and contraction has been very much less; he walks with great ease and comfort, is not troubled with the sudden jerkings and tremblings at night, and can now easily lace his own boots and pick up anything from the floor. Although cases of late rigidity following disease of the nervous centres may not be very amenable to electrical treatment, I think that these cases will show that, when the injury to the brain or spinal cord is due to accidental violence, very great improvement may be hoped for by a judicious use of galvanism and the interrupted-current.

I will now direct your attention to some other affections in which we have employed electricity as a therapeutical agent. It would occupy more time than I have at my disposal, if I were merely to detail a portion of the clinical experience on this subject accumulated at St. Bartholomew's Hospital during the last two years. Time will only permit me to glance at the results of some of the affections in which it has appeared to me to be most serviceable.

Most of the cases of palsy due to pressure on nerves, as from the use of a

crutch, or from persons in a state of intoxication going to sleep on their arm when over the back of a chair or some similar object, will usually recover with galvanism more quickly than when left to themselves. In severe cases, the muscles for a time lose their faradic contractility. In cases of paralysis of the bladder, we have also found galvanism most useful. This condition may be produced by overdistension, due to pressure on the neck of the bladder by an ante-flexed or a gravid uterus; in some cases, it is due to peritonitis. In cases where there has been overdistension followed by incontinence, electricity has been found to quickly restore the muscular tone of the bladder. I have had cases, in which the urine has been drawn off by the catheter for months, recover after about six or eight applications of electricity. It is also most useful in the nocturnal enuresis of children. The positive electrode is placed under the back about the region of the lumbar enlargement of the spinal cord, and the negative applied either above the pubes or to the perinæum. The results obtained by treatment of the genito-urinary organs by electricity are among the most satisfactory; and I attribute this to the fact that the whole nervous supply of these organs can be easily included in the circuit, the centres which preside over them being situated in the lumbar enlargement of the cord.

Dropped wrist, from lead-palsy, is also most frequently cured by galvanism, even after there is complete loss of faradic contractility; in these cases, of course, the treatment has to be continued for a much longer time. Dr. Golding Bird records cases of lead-palsy cured by statical electricity, in which sparks were drawn from the spine. This method was found useful when all others had failed.

In all rheumatic affections electricity is particularly useful; rheumatic paralysis yielding readily to its application. I have also had many cases of muscular rheumatism in which the pain and stiffness have been relieved as if by a charm. Several cases of severe lumbago I include under this head.

Facial paralysis is another affection that also, in the great majority of cases, yields more or less speedily to galvanism. I have had one case quite lately, in which paralysis followed some injury to branches of the facial nerve during an operation for the removal of a parotid tumor. There was, at first, almost complete paralysis of that side of the face; it is now difficult to detect the affected side. But there are some cases of facial paralysis which are most obstinate, especially those of long standing.

In those depressed conditions of the system to which I have before alluded, where there is no specific disease, but general prostration and want of energy following severe illness, mental shock, anæmia from over-lactation, flooding or leucorrhœa, general galvanization has a most exhilarating and revivifying effect; and it does not seem to be followed by any unpleasant or depressing reaction, as is noticeable with the use of other stimulants. Of course, as a rule, hospital-patients with such indefinite maladies are not often referred for electrical treatment, but are given some form of iron or quinine. The patients I have had in this state have chiefly been ladies who have been sent to me to try electricity. They all express the wonderful restorative and refreshing effect they experience; they seem to be much more influenced by electricity than men are. This mode of using electricity can be most easily accomplished by the use of the galvanic bath, in which the whole frame comes under its influence. Male patients, to

whom I have given the electric bath, express themselves as feeling most exhilarated by it. They like it immensely, and the light and buoyant feeling it gives lasts the rest of the day. This is a form of nerve-tonic which, I think, has been too much neglected by the profession. If you have a patient flagging and "below par," if you find he is at a stand-still and will not progress towards convalescence, you send him away to the sea-side for change of air. I think you would find that general galvanization, in whatever form you may apply it, will often have the same satisfactory effect, without the loss of time and expense entailed by seeking a change.

In hysterical affections of all sorts, electricity seems to be the therapeutic agent which less frequently fails than any other, in whatever form it may be applied. It is part of the treatment successfully carried out by Weir-Mitchell in America, and in this country by Dr. Playfair. I have had many cases of the kind—hysterical joints, hysterical paralysis, hysterical constipation, aphonia, and many of the other numerous diseases which this affection simulates; I may say that almost every case has either been cured or relieved by this mode of treatment. One case of hysterical hemiplegia, under the cure of Dr. Gee at St. Bartholomew's Hospital, was cured by four or five applications of static electricity. The patient was placed on an insulated couch, charged with electricity from a frictional machine, and sparks taken from the affected side.

I have had no experience in the treatment of chorea by electricity, but in the *Guy's Hospital Reports* this seems to be one of the diseases most easily cured by its use. The plan adopted and first employed by Dr. Addison, was to take sparks from the spinal cord. Dr. Golding Bird records thirty-seven cases, thirty of which were completely cured. Sir William Gull has also informed me of the great success he had in the treatment of chorea by electricity when he had the electrical department of Guy's Hospital under his care.

Dr. Golding Bird also says, in his lectures on the Therapeutical Use of Electricity, delivered before the Royal College of Physicians of London, that, "In electricity we possess the only really direct emenagogue with which the experience of our profession has furnished us. I do not think that I have ever known it fail to excite menstruation where the uterus was capable of performing this function."

In several cases of hysteria which have been accompanied with amenorrhœa of many months' standing, one of the first effects of electrical treatment has been to restore the menstrual function. I have also noticed the very marked way in which it affects the uterus when I have galvanized patients for affections entirely unconnected with that organ. I have, on several occasions, refused to galvanize patients who have been pregnant; in one case referred to me for treatment for paralysis of the bladder, the galvanizing was followed by a miscarriage.

This branch of the subject brings me to another use of electricity, that is, the galvano-cautery, which we have found very useful in gynecological practice. It is often my duty to assist Dr. Matthews Duncan with the galvano-cautery battery in operation upon his patients at St. Bartholomew's Hospital. Dr. Duncan believes that the galvano-cautery is especially suitable for operations about the female genital organs, as it is followed by much less pain than when the knife is used. I may also add that the application itself is antiseptic, the surface of the wound

is left charred and protected from infection, and there is very little subsequent inflammation. "With no other cautery can we even approach the nicety with which we can graduate the required destruction of tissues, either as to surface or depth" (Dr. Mulhall). The galvano-cautery is also most useful in other parts which are difficult of access, such as in the removal of nasal polypi.

The electrolytic action of galvanism has also been used as a caustic for parts on which we cannot act chemically without exposing the neighboring tissues to more or less injury, such as in cases of ulceration of the cervix uteri, obliterations of the nasal ducts, and strictures of the urethra. In these cases, it is of importance to get soft and non-retractable cicatrices; and, therefore, M. Tripier has recommended the use of the negative pole, which acts as the caustic alkalies.

I have found the electrolytic action of the positive pole very useful for the destruction of nævi, according to the method advocated by Dr. Newman, of Stamford.

Sciatica, which is one of the most troublesome affections to treat, yields, as a rule, rapidly to the application of electricity. I published some successful cases, cured by this mode of treatment, in the *Lancet* in January last.

All forms of neuralgia, in whatever part of the body situated, can generally be relieved by galvanism.

I have made my paper so long that I am afraid I may have tired you; but I hope I have said sufficient to prove that electricity is a most useful therapeutical agent.

Eulachon Oil.

Dr. E. L. SHURLEY thus writes in the *N. Y. Med. Jour.*, Nov. 29, 1884: Eulachon, or "candle-fish" oil, which is said to have a local reputation about British Columbia as an efficient medicinal agent in the treatment of phthisis and other wasting diseases, bids fair, according to my limited experience with it, to become a rival of that well-established remedy, cod-liver oil. For a description of its physical and chemical properties I will refer the reader to the clear, able article of Dr. A. B. Lyons, which was published in the "Therapeutic Gazette" for September, 1884. It seems from this report that, while eulachon oil, in many particulars, resembles closely cod-liver and other fish-oils, it contains besides a substance—analogue to paraffin—which is not found in cod-liver oil. Whether or not this substance gives the remedy a particular advantage over the other agents of its class, is yet a matter of conjecture. I have been using it since about last July with very good results in twelve cases of phthisis pulmonalis of different sorts. Seven of these were hospital cases (at St. Mary's), and five were cases in private practice.

Case I. was ordinary chronic phthisis, well into the third stage. The patient had been unable to take cod-liver oil even in small doses, excepting in an emulsion; but could retain, without any difficulty, two or three teaspoonfuls of eulachon oil, two or three times a day, administered in a little whisky. The disease, however, progressed, and no signal result was noticed excepting the ability of the patient to retain the oil, and digest it.

Case II. was a well-advanced case of "grinder's phthisis," in which there was considerable consolidation in both lungs, with marked hectic fever, abundant ex-

pectoration, and rapidly progressing emaciation. Hæmoptysis on April 24th to 26th, 1884. At first the eulachon oil was not retained. but, after two or three trials, there was no difficulty experienced, and the patient has been taking it since the 19th of last July, and is evidently holding his own very well, since the pulmonary tissue is not much broken down, and he thinks of resuming work. He has no hectic fever now.

Case III. was local tuberculosis of the right lung, in a decorator, who had been affected for about eighteen months (following a pneumonia) with progressive emaciation; a moderate hectic fever; expectoration not very abundant; and general strength gradually declining. The eulachon oil was commenced with this patient the latter part of July, and he has been taking it since, together with tonic treatment, on and off, up to this time, with no apparent disturbance of the stomach or bowels. The temperature is still above normal, digestion is good, and the patient's strength has not declined during the last month. Nocturnal sweating is only occasional, whereas in August it was almost constant.

Case IV. was a case of bronchial phthisis of eighteen months' duration. Considerable febrile movement at night only; occasional nocturnal sweating; considerable thickening of the peri-bronchial tissue in both lungs; and occasional hæmorrhages. The patient had been treated with cod-liver oil before coming to the hospital, and avowed his inability to take anything of the sort. The eulachon oil was administered, first in half-teaspoonful doses, the patient having been assured that it was not cod-liver oil, and the dose gradually increased to a table-spoonful three times a day, which he has taken up to this time, with occasional doses of cinchonidine and anodynes to allay cough. Up to the 20th of October, when last seen, he had gained three pounds in weight since August 2d, experienced no difficulty in retaining the oil, and is apparently improving.

Case V.—A machinist, who had resided up to last July in Connecticut, had been affected with cough for the last two years, and for the last nine months had rapidly declined in strength, and suffered from hæmoptysis and hectic fever. By two or three physicians at his home he was advised to go to Colorado as the only chance of life. Having some relatives here, he stopped on his way, and was induced to seek advice at St. Mary's Hospital. He was very much emaciated when he presented himself in May, his pulse being very rapid, hectic fever marked, expectoration profuse, with almost constant nocturnal sweating. Has had three attacks of hæmoptysis; the last one on July 14th. Said he had taken cod-liver oil, malt, etc., before coming here, but could not take the oil more than a week or two at a time. It was found, upon close questioning, however, that oftentimes the oil was rejected, because of being taken at improper times, and on account of severe fits of coughing. This patient was treated by the administration of cod-liver oil emulsion, malt, compound syrup of the hypophosphites, etc., with no improvement up to August 15th, since which time he has steadily taken eulachon oil, together with compound tincture of gentian and Fowler's solution of arsenic, until September 5th, when the gentian and Fowler's solution were stopped, and he has taken nothing but eulachon oil since (about four table-spoonfuls daily). Up to October 1st there seemed to be very little improvement in his condition; but since then he has rapidly improved, expectoration and febrile movement diminishing, no nocturnal sweating, no derangement of the bowels, and from October 10th to November 5th he has gained four pounds in weight.

Case VI. was a case of incipient phthisis of three months' duration. Very decided apex catarrh of the left side, incessant cough, great disturbance of the stomach. Gastric irritability was so great from coughing that food was often ejected. Emaciation taking place quite rapidly, but febrile movement not proportionately strong. This patient had tried cod-liver oil, but it would not digest. Eulachon oil was administered about the 15th of September, but met the same fate that had attended the ingestion of cod-liver oil. It was rejected sometimes immediately, and sometimes in the course of half an hour. It was now stopped entirely for a period of a week or two, when anodynes, malt, and stomachic tonics were prescribed. At the end of this time a 25 per cent. emulsion of eulachon oil was administered. This however, while it did not seem to digest, was not rejected by the stomach. Its administration was suspended for a few days, again and the stomachic tonics were resumed. In October the emulsion was again administered, and with success. For the last two weeks the patient has been taking a 50-per-cent. emulsion, with marked benefit.

Case VII.—A case of acute phthisis. Extensive tuberculous deposit in the upper lobe of the left lung, and some at the apex of the right. Two or three small cavities. Constitutional symptoms—such as hectic fever, nocturnal sweating, rapid pulse, etc.—quite strong. Besides this, a persistent diarrhœa. With this patient cod-liver oil increased the bodily temperature, and increased the diarrhœa and anorexia, whether given pure or in emulsion. After treatment by very mild tonics, bismuth, and preparations of extracts of malt, covering a period of two weeks, a 25-per cent. emulsion of eulachon oil was administered. This at first did not seem to agree with the stomach (although there was no increase of diarrhœa), and fishy eructations were complained of by the patient. It was now administered, and each dose followed immediately by five grains of bicarbonate of sodium, when, after a day or two, the patient was enabled to take the emulsion without complaining of disagreeable eructations. No extra disturbance of the bowels was noticed until an attempt was made to give a 50-per-cent. emulsion. However, by an occasional administration of an opiate, he was enabled to take a 35-per-cent. emulsion, which apparently agreed with him nicely, and he seemed to more than hold his own. As I have not seen him since October 25th, on account of his removal from the city, I do not know the further progress of the case. The case, nevertheless, illustrates the good effects of the oil regarding the disordered alimentary tract.

In the five cases in private practice an attempt was made to administer the *pure* oil; but in two of the cases it was found impossible, and in one it could only be administered in the form of emulsion; while in the other one it could not be administered at all in any form, as the most persistent effort on the part of the patient as well as myself demonstrated. Of the remaining three cases, one was a case of grinder's phthisis, in a man forty-six years old, in whom an apparent arrest of the disease had taken place a year ago; but a renewal of activity began last June, when circumscribed inflammation, resulting in abscesses, very speedily followed, with consequent emaciation, hæmoptysis, and hectic fever. At the time of beginning the administration of eulachon oil, in September, the patient was confined to his house; very much emaciated; constant elevation of temperature—101° to 103° F.; expectoration of a very large amount of sputum

more or less mixed with blood; anorexia, nocturnal sweating, persistent cough, and troublesome diarrhœa. An attempt to administer the pure oil at first failed, but, after persisting for two or three days, he was able to retain and digest it. He has been taking three tablespoonfuls and a half daily since October 12th. He is now improving quite rapidly, and walks out a little every day. Besides this treatment, he has been taking tannate of quinine, with opiates, on and off, for the relief of diarrhœa, and balsamic inhalations, but at no time did I discover that the ingestion of the oil increased the alvine evacuations.

The fourth case was one of ordinary phthisis, in a female, in the second stage of its development, which seems to be doing well. She has taken the oil since about the 3d of August, with very little intermission; and, although she has not gained in weight, she has only occasional hectic fever, and is able to attend to her household duties daily.

The fifth is a case of phthisis in its early stage, with a small deposit of tubercle at the apex of the right lung. Dyspeptic symptoms quite marked; bowels constipated. An evening temperature generally of 102°; quite anæmic. This patient has been taking a 50-per-cent. emulsion of eulachon oil since the latter part of September, and no disagreeable effects follow its administration. No other medicine has been administered excepting a cough syrup consisting of codeine and syrup of tolu. No softening of the patch has yet taken place, as shown by physical exploration of the chest made a week ago. No difficulty in digesting the oil is experienced. Neither has the patient had any relaxation of the bowels, excepting occasionally from eating fruit. The body-weight has increased two pounds since the beginning of the administration of the oil.

The foregoing summary seems to me to point out the fact that eulachon oil is certainly not inferior to cod-liver oil in the general run of cases. Of course there are some patients with whom the administration of any oily substance is impossible. But, if this fish-oil proves to be more digestible and agreeable than the time-honored cod-liver oil, it should certainly receive favor on that account.

The results above given might possibly have been accomplished by cod-liver oil, but in most of the patients with whom this remedy was used it was ascertained that cod-liver oil had been administered, more or less previously. While, therefore, one would not claim, from this limited experience, that the eulachon oil is in any way a *specific* against phthisis pulmonalis, I think, however, that the clinical trial given it fairly shows its superiority in digestibility over cod-liver oil. In only one of the cases did I find that eulachon oil really produced diarrhœa, while cod-liver oil (as the majority of the profession will testify) is very prone (when used to any extent) to cause this harassing and sometimes grave complication. Indeed, of late years, on this account, as well as because of its taste, I have used far less cod-liver oil than I did formerly, and find myself gradually coming to abandon it.

Emulsions of this oil may be made in the same way as emulsions of cod-liver oil. I generally prefer a flavoring of almond oil, with either cinnamon, wintergreen, or peppermint. The question of price is something important for the physician to consider, for any comparatively new remedy is apt to be high-priced; but I understand this oil will probably be furnished to the market as cheap at least as cod-liver oil, and perhaps cheaper. If this is so, it seems to me that its

less disagreeable properties, and its equally good, if not much better, therapeutic value, will give it a great advantage over cod-liver oil, which has held for so many years such a prominent place in the physician's armamentarium.

Subcutaneous Injections in Intestinal Pain; Their Safety as Compared with Opiates by the Mouth.

Dr. E. M. BUCKINGHAM thus writes in the *Boston M. and S. Jour.*, Oct. 30, 1884:

When called to a patient suffering pain, one of the obvious ways of giving relief is by the use of opium in one of its forms. If the pain has its seat in the intestines, other methods of treatment may be considered, as either an emetic or a cathartic to remove irritating ingesta, but there are cases even when irritating ingesta are known to be present in which a cathartic seems to act more surely and more pleasantly after the removal of spasmodic contractions accompanied by pain, and there are also cases in which humanity demands the relief of pain without waiting for the slow action of cathartics, and others again in which, the diagnosis being a matter of doubt, a cathartic may be dangerous, while the irritating ingesta, if present, have apparently passed the point when they can be reached by emetics. In such cases the use of opium is undoubtedly the practice of the profession. It may be given by the mouth or anus, or by subcutaneous injections. It is well recognized that the subcutaneous injection is rapid in its effect, and this, of course, is an argument for its use, but it has occurred to me that there is another advantage as well, that of safety; and that is the more worth dwelling on, that there are practitioners who dread the subcutaneous syringe on the ground of danger. That it has its dangers is a well-recognized fact; that they may be avoided by care is commonly agreed upon; that there is ever any danger in giving opiates by the mouth that does not belong to the hypodermic injection, and that such cases may in a measure be recognized, is something that has not been dwelt upon, as far as I am aware.

It is, however, well established that in certain conditions the intestinal canal does not digest and absorb food, sometimes does not absorb because it does not digest; and it is equally well known that fatigue or mental excitement may be the cause of this non-absorption; that is, a cause which acts through the nervous system independently of the particular contents of the intestine. It seems, too, that this nervous cause does not always act merely by stopping digestion, but that it also prevents the absorption of materials that are in themselves ready to be absorbed. At least I can explain in no other way the cases occasionally reported on good authority in which enormous doses of laudanum have been taken either for suicide or accident, and which have been retained long enough to be fatal, but have produced in some cases no symptoms, in others none of any severity. Such cases are to be found scattered through medical literature, and need not be repeated here.

If it be granted, as it must be, that fatigue, cold, or mental excitement are at times causes acting through the nerves and preventing absorption, or at least preventing digestion, it may be more readily accepted that pain may have a similar effect. Whether it actually does so or not is a matter to be decided by clinical experience, and probably in no other way. I think that I have seen some evidence that it does, but not enough to make the matter certain; and it is in

hopes of comparing notes with others, or at least of drawing attention to the subject, that this paper is presented.

Case I. A gentleman has had several attacks of pain, which, as will be seen later, it is necessary for my purpose should be shown not to be due to calculi. This gentleman, who is of middle age, has for years managed a large business alone, getting little exercise, and keeping a luxurious table. He has a habitually coated tongue. There have been extra fatigue and anxiety, with lunch omitted and dinner postponed; or some recently eaten article of food has been tasted for hours before the onset of pain; or on one occasion the exciting cause seemed to be an indiscretion in diet while in bed with a carbuncle, followed by sleeping exposed to a strong current of air, by which his wife also took cold. One or the other of these supposed causes has preceded each attack. Furthermore, there has never been pain referred to the penis, the thigh, or the testicle, which last has not been retracted. The liver has never been large nor tender, and with one slight exception there has been no jaundice. The pain has been general over the abdomen rather than local, and when once controlled by opium, at whatever stage of the attack, has not returned except once, when it ended with a diarrhoea.

This is not the history of calculus, and the sudden cessation of pain to be reported has evidently a different explanation.

The history of the particular attack to which I refer is as follows: He had headache for a few days, was very and anxiously busy, and was all day out of town in the cold, and with nothing to eat after breakfast until night. Pain began in the following afternoon, somewhat suddenly, and he was given a subcutaneous injection by a physician down town, the amount unknown. When I saw him at his house the abdomen was tympanitic, and he was regurgitating gas. Was still in great pain, though a little easier from the injection. Because of the partial relief, together with the unknown quantity of opium taken, he was given small, frequently repeated doses of morphia by the mouth. When I next saw him, four hours later, he had taken by the mouth five-sixths of a grain, the pain was at least no easier, and the pupils were not contracted. Soon after I entered the room he vomited for the first time, bringing up green liquid very freely, but nothing else. After waiting a short time to see if vomiting would give relief, I did what I should have hardly dared had he not vomited, gave a sixth of a grain subcutaneously, and with the effect of giving complete ease, relief beginning in something less than a half hour. He then dozed off and on for three hours, and then slept for three, but there was no return of pain, and in the morning, some twelve hours after this last injection, neither the pupils nor the skin showed the effects of opium.

Now if it be assumed that his stomach was in ordinary working order, it follows that of the five-sixths of a grain given by the mouth the most must have been absorbed. In addition to this a sixth of a grain was given by me, and something given down town. It will be safe to say that the man took over a grain of morphia during a few hours, and it must be assumed either that he deceived me by complaining after the pain was partly relieved by the absorption of this large dose, which supposition is contradicted both by the character of the man and the absence of any effect on the pupils, or that no effect was had from five-sixths of a

grain, while the addition of a single sixth gave complete relief—a result not in accordance with common experience; and in either case we are left to account for a grain of morphia being taken in a short time of the late afternoon and evening, and leaving no effects perceptible early on the following morning.

On the other hand, if the stomach was not absorbing, a dangerously large dose was collected there, and remained inert until it was, fortunately, vomited, after which the pain was relieved by a comparatively small dose placed where it could be of service, and there were no manifestations of a large dose, because that had been rejected after lying useless for some time.

To assume certainly that the non-absorption was due to pain would be going too far; but it was not due to the presence of any large amount of mucus, so far as one can judge by the vomitus, while the next dejections contained nothing but some old fæces. That there was a connection between this non-absorption and the presence of intestinal pain seems probable, partly in the absence of any other explanation, partly in view of the fact that abdominal pain sometimes causes vomiting, as witness the vomiting that accompanies tenesmus in dysentery, even in cases where the stomach contains no food, and there is no vomiting, except at the times of dejections, and partly in view of the next case to be reported.

Case II. A lady, ill with dysentery, was given morphia many times both by mouth, by rectum, and by the skin without showing any idiosyncrasy with regard to its use. For several days during a part of the illness nearly every dejection was accompanied by vomiting. On one day she was given a sixth of a grain of morphia for the relief of distressing and persistent tenesmus, and this was repeated twice in eighth grain doses, making nearly a half grain in all, but with no apparent effect. I saw her an hour and a half after the last dose, and, remembering the previous case, injected a twelfth grain subcutaneously. Very shortly the pain became easy, the pupils were much contracted, and she sunk into an unusually sound and prolonged sleep. The long and sound sleep might be accounted for by the relief of pain in a worn-out woman, but not the contracted pupil. She was certainly affected powerfully by the opiate, of which by far the greater part had been taken from an hour and a half to several hours before showing its effects. Furthermore, nearly a half grain had been taken without effect; a twelfth grain injected was followed at least by relief, and this relief was not merely caused by the repeated addition of dose after dose, as is seen from the long interval between the last two doses, and the overpowering effect when the drug did act. I can find no explanation of this case unless the large dose, made up of small ones, lay inert together until the pain became lessened, and then the whole morphia, that given by the skin, and that by the mouth, entered the circulation together, with effects to be expected from that dose.

That the partial relief to pain given by the small injection was the cause of the stomach beginning again to absorb is not certain, but the coincidence is at least suggestive.

Unquestionably the stomach will almost always absorb an opiate. It is probable there are times when it will not, and one indication of this condition may be intestinal pain. If, as these two cases suggest, though they do not prove, the presence of intestinal pain has sometimes an effect in preventing absorption, it follows that in such cases opium by the mouth is uncertain, and if pushed may

become dangerous; if given at all may make the after-use of the syringe dangerous.

My own practice has been for some time to inject morphia in these cases, and to stay with the patient until he becomes easier. Only when relief has begun, to leave an opiate to be used provisionally.

If discussion shall remove my fears in this matter, and lead me to a less cumbersome practice, the trouble of writing will be amply repaid.

Muriate of Cocaine in Ophthalmic Practice.

Dr. E. O. SHAKESPEARE thus writes in the *Medical News*, November 8, 1884: The cocaine used was obtained from Foucar, of New York City, about a fortnight ago, and was received in the form of a two per cent. solution.

The following notes which I have made will speak for themselves:

Case 1. Myself. At 3.5 p. m. pupils normal, and nearest point of distinct vision at 5 inches. Instilled into left eye two drops of cocaine solution. The application was painless. At 3.10 there was decided analgesia of left eye. The bulbar conjunctiva below the cornea of this eye was grasped and pulled with forceps. Contact was appreciated, and the metal felt cold at the first instant, but there was not the least pain. Similar treatment of the conjunctiva of the right eye excited the most lively pain. At 3.20 the pupil of the right eye measured .13 of an inch, while that of the left had a diameter of .25. With the left eye, the nearest point of distinct vision had receded to 7 inches, while for the right eye the nearest point had remained unchanged. There was also some indistinctness of distant vision, due to the manifestation of a slight amount of astigmatism. At 3.45 the diameter of the pupil of the left eye was .27, and the nearest point of distinct vision was at 7 inches. The normal sensibility of the bulbar conjunctiva was now nearly restored. At 4.40 the pupil of the left eye was .21, and the sensibility of the conjunctiva was normal. At 7 p. m. the pupil and the power of accommodation were about normal. During all this time there had been no evidence of irritation of the conjunctiva.

Case II.—Dr. L., resident physician in charge of the eye wards. At 3.15 p. m. the pupils were normal, of .14 inch diameter. Three drops of cocaine applied to left eye without discomfort. At 3.18 complete analgesia of bulbar conjunctiva of this eye, as shown by treatment similar to that in case I. Sense of touch present, but blunted. Right eye acutely sensitive to application of forceps. At 3.28 the diameter of the pupil of the left eye measured .25 of an inch, while that of the right remained unchanged. At 3.45 the pupil measured .33 of an inch, but the moral sensibility of the bulbar conjunctiva of the left eye was nearly restored. Accommodative power had been lessened, but it was not measured. At 4.40 the pupil of left eye was .23 diameter.

Case III.—Dr. N., resident physician in charge of surgical wards. At 3.15 pupils normal, measuring .14 inches in diameter. Three drops of cocaine instilled into the left eye without discomfort. At 3.19 complete analgesia of bulbar conjunctiva of the left eye, as shown by tests similar to those applied in the previous cases. Sense of touch dulled but not abolished. Right eye acutely sensitive to application of forceps. At 3.45 diameter of pupil of left eye .21, while that of the right remains unchanged. The normal sensibility of conjunctiva of left eye nearly restored.

Case IV.—Miss S., nurse in women's eye ward. At 3.15 pupils normal, their diameter .21 of an inch. Three drops of cocaine introduced into conjunctival sac of left eye, without discomfort. At 3.20 analgesia of bulbar conjunctiva of left eye complete, as evinced by above tests. Sense of touch only blunted. In the right eye sensibility acute. At 3.45 the pupil of the left eye was .33 inch in diameter, whilst that of the right unchanged, and the normal sensitiveness of the bulbar conjunctiva of the left eye was quite restored.

Case V.—Male, white, adult. Present condition: Retinitis pigmentosa—pupils small, of equal size. Two drops of cocaine solution introduced into right eye, without discomfort, three times at intervals of five minutes. Sensibility first tested ten minutes after first application. Pain on application of forceps to bulbar and tarsal conjunctiva of right eye was very slightly felt when the conjunctiva was first grasped, but it did not continue. The eye speculum was introduced without pain, there being only slight discomfort. The conjunctiva of the left eye was acutely sensitive to similar handling. Normal sensibility had returned at the end of a half hour after last use of the drops. The pupil of the right eye became much larger than that of the left.

Case VI.—Male, colored, aged. Present state: Senile cataract and marked arcus senilis in each eye. Pupils equal in size and small; both respond to variations in light. No synechiæ. Sensitiveness of the conjunctivæ not very acute. Application of one drop of cocaine to right eye four times at intervals of five minutes. Ten minutes after first application analgesia of right eye complete. Speculum and forceps used in this eye without any pain, whilst same treatment of the left produced considerable pain. Thirty minutes after the last instillation of the cocaine the normal sensibility appeared to be restored. The pupil had not been at all affected.

Case VII.—Male, white, adult. Present state: Acute granular conjunctivitis, complicated by vascular keratitis and deep, broad, central ulcer corneæ of the right eye. Constant bulbar and peri-orbital pain, acutely tender to the touch; intense photophobia, much lachrymation. Two drops of cocaine instilled into the eye twice at an interval of five minutes. Three minutes after the first application the patient volunteered the information that the pain was nearly gone. The photophobia was also far less marked, as shown by the ability to open the affected eye and look upwards. Palpation now produced but little pain. Five minutes after the second application the pain had entirely disappeared, and considerable pressure upon the eyeball did not excite it. The patient could now open the eye without difficulty.

Case VIII.—Male, white, adult. Present state: Episcleritis of right eye. One drop of cocaine solution applied to this eye three times at intervals of five minutes. Analgesia in this case incomplete.

Case IX.—Male, white, nine years old. Present state: Convalescent from acute granular conjunctivitis. One drop of solution of cocaine applied to right eye three times, at intervals of five minutes, produced incomplete analgesia in ten minutes, which continued fifteen minutes after the last application.

Case X.—Male, white, six years old. Present state: Phlyctenular conjunctivitis and keratitis of the left eye. Much photophobia and lachrymation of this eye; it is kept tightly closed when not shaded. One drop of cocaine solution

applied to this eye three times at intervals of five minutes. After the second application the photophobia was much lessened; the child could open the eye and look up when facing a strong light from the window.

Case XI.—Male, white, adult. Present state: Chronic catarrhal conjunctivitis of the left eye. One drop of the cocaine, applied three times at intervals of five minutes, followed by incomplete analgesia.

Case XII.—Female, white, adult. Present state: Chronic granular conjunctivitis with pannus corneæ. An acute inflammation superadded by the application some days ago of infusion of jequirity. Much and constant pain. One drop of cocaine solution applied twice at an interval of five minutes. Five minutes after the second application the pain had greatly decreased.

Case XIII.—Female, white, adult. Present state: A chronic granular conjunctivitis with pannus corneæ, which had been improved by an application of infusion. One drop of cocaine solution applied once. Five minutes after, the lids were everted and rubbed with a crayon of sulphate of copper. No pain was caused by this until some fifteen minutes after the application of the cocaine.

Case XIV.—Female, white, aged. Present state: Senile cataract, incipient in the right eye, complete in the left. Applied, at the clinic Wednesday, Oct. 29th, three drops of solution of cocaine to the left eye twice, at an interval of eight minutes. Five minutes after last application began the operation of a preliminary iridectomy, without other anæsthesia. The patient was seated before me in a chair, her head steadied by my assistant, Dr. L. Introduction of the speculum, grasping of the bulbar conjunctiva with the fixation forceps, puncture, counter-puncture and section of upper limb of the cornea with a von Graefe knife caused no discomfort nor the slightest disposition of the patient to wince. But when the iris was cut there was lively pain.

It would seem from the experience related above, that the following deductions are warranted:

1st. That when properly applied, this drug is usually capable of rapidly producing a transient and more or less complete local analgesia of the conjunctiva and cornea.

2d. That it will probably prove of great value in various operations in ophthalmic surgery, which, without anæsthesia, are very painful.

3d. That it may be expected to give great comfort to patients suffering with pain from exposure or irritation of the nerves of the conjunctiva or cornea.

4th. That it should be used previous to the employment of caustic or other painful applications to the eye.

5th. That mydriasis is usually rapidly produced, but not always, and that it also rapidly disappears. It would therefore seem to be very useful for simple exploration of the interior of the eye.

6th. That slight paralysis of the power of accommodation follows the application of a two per cent. solution.

Hydrochinon as an Antipyretic.

Dr. P. SEIFERT, of Dresden (*Berliner Klin. Wochensch.*, 1884, No. 29), says that hydrochinon is a benzol derivative with the formula $C_6H_4O_2$, and is obtained by adding sulphurous acid to chinon. It crystallizes in rhombic colorless prisms,

is little soluble in water, easily so in alcohol and ether, and has a sweetish not unpleasant taste. It is isomeric with catechin and resorcin, and acts better than either.

Its physiological action was first determined by Brieger in 1879, on cold-blooded and warm-blooded animals. Small doses caused death with tonic convulsions in frogs. Rabbits bore quarter-gramme doses (3.8 grains) without inconvenience; half a gramme caused slight cramps; and three-fourths of a gramme caused strong clonic convulsions, the arteries being dilated, the salivary and lachrymal secretions increased, the temperature raised $2^{\circ}.7$ F., and the breathing retarded. Death ensued in an hour and a half.

A larger rabbit took $15\frac{1}{2}$ grains, the usual dose for a human being, and recovered perfectly after clonic convulsions for two hours. The urine was always darkened, but contained no hydrochinon.

On man its antipyretic action is almost unfailing. It has been given in fifteen-grain doses up to even 90 grains in a dose. The former dose usually causes a lowering of $1^{\circ}.8$ up to $3^{\circ}.6$ F.; sometimes 5° or 6° F. The temperature begins to fall within a quarter of an hour, with sweating; it remains lower for two or three hours, and then rises during another hour to its former level. The pulse is slower but not altered in quality, the respiration is unaltered, the urine is darker. In continued fever, three or four doses a day of fifteen grains each suffice to keep the temperature at a moderate level of about $101^{\circ}.3$ F. No disturbing symptoms attend its repetition, as sometimes occurs after kairin.

Out of forty patients treated with hydrochinon, only four suffered from frequent vomiting, so that the remedy had to be discontinued. The noises in the ears, headaches, and even delirium, which occasionally occur after quinine and salicylic acid, and the symptoms of collapse which occasionally attend large doses of kairin, were never observed. The only discomfort was a slight shivering while the temperature rose again. The sensorium was most favorably affected in the typhus patients, the mind becomes clearer.

The retardation of the pulse after each dose was parallel with the fall of the temperature, and equally important. The recurring perspirations were seldom complained of; indeed, patients in high fever, with a dry tongue and burning skin, found great relief from them. But the drug is apparently contra-indicated in phthisis, with much tendency to sweating.

On children the fact was equally favorable. Five grains are sufficient for a child two to four years old; seven grains for older children.

In conclusion the author sums up thus:

1. Hydrochinon deserves a place among our antipyretics.
2. Its action is certain and prompt, and, though its effect is not so lasting as that of quinine, its use in repeated doses is attended with no injurious effect on any internal organs, and fever may be kept down by it continuously and methodically.
3. It is especially recommended where quinine is not well borne, and its taste is as acceptable to children as to adults.
4. The price of 15 grains is about ten cents, so that treatment by quinine and by hydrochinon would ultimately cost about the same.

Faradization in Intermittent Fever.

The *London Med. Record* tells us that Drs. A. KH. GRIGORIEFF and A. G. MUSTY-KANTOFF, of Temir-Khan-Shura (*Russkaia Meditzina*, Nos. 29 and 30, 1884) tried the faradic treatment in forty cases of malarial fever. The patients were divided into two equal groups. The first group was treated by local faradization in the splenic region, the sittings being of fifteen minutes' duration and repeated daily. The second group was subjected to general faradization (with electrodes in the patient's hands), lasting half an hour, twice daily. In both instances, the current was supplied by Dubois-Reymond's sledge apparatus with one Grove's cell, and was as strong as the individual patients could bear. When no improvement was observed, electrization was supplemented by the administration of quinine, at first in eight-grain doses, subsequently in sixteen-grain doses. The results obtained by the authors were these. In the *first* series of twenty cases (consisting of fourteen cases of the quotidian variety, two of tertian and four of quartan), eight patients were cured by faradization alone, on an average after five sittings. In the remaining cases the addition of quinine proved necessary; in four of them cure ensued from electricity (on an average, after fourteen sittings) and eight-grain doses of the drug; in eight, from electricity and sixteen-grain doses of quinine. In fourteen of these twenty cases there was present an enlargement of the spleen; in all of them, the authors invariably observed contradiction of the organ under the influence of electric current [and thus confirmed the experience of Chvostek, Wagner, Harless, Jaschkowitz, S. P. Botkin, Shtchegloff (*see London Medical Record*, April 1882), V. F. Sprimon, etc.]. The *second* series consisted of eight cases of quotidian fever, five of tertian and seven of quartan. Seven cases were cured by general faradization alone and eight-grain doses of quinine, and in five cases faradization was stopped to give place to the use of quinine (in sixteen-grain daily doses). The general conclusions at which the authors arrived are as follows: 1. The electric current undoubtedly produces a certain influence in intermittent fever. 2. In some cases, a complete cessation of paroxysms may be obtained by faradization alone. 3. In such cases, cure follows pretty rapidly. 4. When faradization proves effective, it cures both mild and severe cases without any regard to the type of fever. 5. With some rare exceptions, faradization does not bring about any diminution in the intensity of the paroxysms. 6. The percentage of cures is not so considerable as to enable faradization to supersede quinine. 7. Local faradization produces contraction of the spleen, while general faradization remains without any influence on the bulk of the organ. 8. Returns of the disease occur after the faradic treatment as often as after quinine. 9. The form of the application of faradization has no significance for the issue of the treatment. 10. General faradization is preferable, since it involves less trouble and waste of time than local application. According to the authors. Professor Shipulinsky was the first in Russia who, in 1854, began to treat intermittent fever by faradization; he cured sixteen cases of intermittent after one sitting in each instance. (*See the Proceedings of the St. Petersburg. Russ. Med. Soc.*, 1854, vol. v., p. 217.) This plan found an ardent sympathizer in Dr. Krasnogladdoff, of Tiflis, who in twenty days cured forty-four patients with non-malignant Caucasian malarial fever. Later on, Dr. Tchulovsky, of Dagestan,

published nine successful cases in the *Kavkazsky Meditzinsky Sbornik*, No. 26, 1878.

Hydrochlorate of Cocaine in Laryngeal Phthisis.

Dr. GEORGE M. LEFFERTS, of New York, thus writes in the *Medical News*, Nov. 29th, 1884:

All who have had any experience in battling with that most dread symptom of advanced laryngeal phthisis—the terrible dysphagia—will welcome any means which promises to overcome it, and give even temporary relief to the patient. Such a means I believe we have in the much-lauded cocaine, and I desire to place the results of my experience upon record, both for the sake of the sufferers and in order that the profession may be made aware of the possibilities which are at their command.

It is unnecessary in this short notice to detail my trials of the remedy. In a large series of cases the results have always been the same. One case, as an illustration, will answer my purpose. In a patient, the victim of advanced pulmonary and laryngeal phthisis, demonstrated to my class at the College of Physicians and Surgeons on Tuesday last—one in whom the act of deglutition had been an absolute impossibility for one week on account of the acute pain that it caused, together with the immediate reflex spasm and rejection of the smallest amount of fluid nourishment on any attempt at swallowing, so that the patient was slowly perishing, in reality, more from hunger and thirst than from his disease—one application of the cocaine so anæsthetized the acute sensibility that a full glass of milk was immediately drank before the class with ease and entire comfort. Each subsequent application in his case, as well as in many others equally well marked, has produced the same result, and, I may add, has notably relieved the element of dyspnœa, dependent upon the engorgement and swelling of the tissues, with consequent laryngeal stenosis, probably by producing temporary tetanic muscular contraction, in the fibres in contact with or surrounding the dilated blood-vessels.

One such example alone, however, is calculated to excite our warmest enthusiasm for a remedy which is capable of alleviating such a grade of human misery.

The application of the cocaine (a four per cent. solution) was preceded in each case by a thorough cleansing of the mucous surfaces and all ulcerated points of the larynx from thick tenacious muco-purulent discharges, by the spray-application of an alkaline solution (Dobell); the parts were then immediately bathed gently, yet thoroughly, by means of a large laryngeal brush fully charged with the cocaine solution. One such application answers the desired purpose.

IV. GENERAL MEDICINE.

What We Know About Cholera.

In an address on cholera, by Dr. FRANK H. HAMILTON, published in the *N. Y. Med. Jour.*, November 15, 1884, the following occurs :

1. We have no positive knowledge of the existence of a specific cholera-germ.

While the existence of a specific cholera-germ, endowed with the principle of life and capable of growth and propagation when supplied with its proper nutriment, is rendered probable by many facts and analogies, yet such a supposition has not been established by strict scientific observation or reasoning.

I employ the term "cholera-germ," then, only as a substitute for "cholera-infecting material," whatever that may be, and as the term which most nearly expresses my belief as to its nature.

2. So long ago as 1854 or 1855, Professor Filippo Pacini, of Naples, published in the Italian *Medical Gazette*, a paper on cholera, in which he described a germ or microbe, and to whose presence he ascribed the epidemic cholera. His paper was translated into French and English, and re-published in 1865, 1866, 1871, and 1879.

Koch has more recently (1883) discovered in the intestinal secretions of cholera patients a bacillus or spirillum, designated usually as the "comma" bacillus or spirillum, which, so far as his observations have extended, is uniformly present in well-defined examples of cholera, and is not found in any other conditions of disease or of health.

Dr. H. Vandyke Carter, of Bombay,* has found an organism which it is conceded resembles very much the comma microbe of Koch. The presumption seems to be that it is the same, but of which microbe Dr. Carter says that it was not uniformly found in cases of cholera, and that it was occasionally present in cases of diarrhœa and dysentery.

Dr. Maurin and Dr. Lange as the result of their studies at Marseilles,† announce that they have discovered a mucus, which, in the process of its development, germinates spores, and these in turn germinate a new form of mucus, termed anaërobium; these latter, sporifying, give birth to the bacilli of Koch; and, finally, the bacilli develop the original mucus, and thus the cycle of life and development is completed. They regard the second form of mucus or anaërobium as the immediate cause of the phenomena of the disease, while they regard the bacilli of Koch as innocuous.

Dr. R. T. Lewis, of the British army, assistant professor of pathology in the army school at Netley, has been studying the cholera also at Marseilles, and he reports as the result of his investigations that the comma bacillus is present in

* *Med. Record*, September 27, 1884, p. 350. From the *Lancet* for September 6, 1884.

† *Med. Record*, September 27, 1884, p. 350.

all well-developed cases of Asiatic cholera, but that he has found it also in the salivary secretions of healthy persons.*

It is also stated as a fact, tending in some measure to corroborate the opinions of Koch, that two Swiss physicians, Ritsch and Nicati, experimenting at the Pharo Hospital, Marseilles, under instructions from the French Government, have caused the Asiatic cholera in rats, Guinea-pigs, and dogs by injecting the dejections of cholera patients into the duodenum after tying the ductus choledochus, hoping in this way to prevent the action of the gastric secretions and the bile upon the bacilli.†

Certainly such statements ought to be received with a great deal of hesitation. So far as I am informed, none of these animals have been known to take the cholera under ordinary exposures, and the Egyptian Commission was unable to produce it by inoculation or injection into cats, dogs, mice, rabbits, or hens.

Dogs are the almost universal companions of men in all countries, both in health and sickness, and their habits of eating all kinds of decaying and filthy substances, including human excreta, is well known; yet I have never seen a case of cholera among dogs, nor do I know that any one else has. That these animals should have had some sort of disturbance of the bowels after the severe surgical operations to which they were subjected is quite probable, but that this was of the nature of Asiatic cholera is not, in the light of our experience with dogs, at all probable.

A correspondent of the *New York Times*, in a cable dispatch, says that Dr. Klein, a Bombay official and expert, has experimented upon himself by swallowing a quantity of the comma bacilli, and without harm.‡

Professors Finkler and Prior, of Bonn, announce that they have discovered the comma bacillus in the stools of those suffering only with cholera nostras, or cholera morbus.¶

Straus, Roux, Rocard, and Thuillier, pursuing their investigations under the authority of the French Government in Egypt during the month of August, 1883, declare, for reasons which they assign, that they do not feel themselves justified in concluding that the comma bacillus of Koch is the cause of cholera.§

Finally, MM. Sicard, Taxier, Loucel, Livon, and Chareyre, members of a commission appointed by the French Academy, and who pursued their investigations at Marseilles, report that the blood of a cholera patient injected into the veins of a rabbit will cause cholera; the perspiration thus injected does not transmit the cholera; the intestinal contents, loaded with bacilli, do not transmit the cholera when injected into the cellular tissue of the peritonæum, into the wind-pipe, into the blood, or into the intestines; that the comma bacillus is not the cause of cholera; and they conclude by saying: "We know better than our predecessors what the cholera is not, but we do not know what it is."¶¶

We are at least permitted to say, in view of the conflicting testimony to which

* *Med. Record*, October 4, 1884, p. 381; October 11th, p. 416.

† *Lancet*, September 20, 1884, p. 504.

‡ *New York Times*, October 5, 1884.

§ *Med. Record*, October 18, 1884, p. 436.

¶ *Archives de Physiologie*, 15 Mai, 1884, p. 381.

¶¶ "Med. Record," October 25, 1884, p. 467.

I have referred, and of many other statements made by less conspicuous observers, that the theory of Koch that the comma bacillus is the cause of cholera has not been established.

3. Even if it were established that the comma bacillus was always present in cholera and never present in any other condition of health or of disease, it would not determine the question whether this bacillus stood in the relation of cause or effect.

4. The theory is defective, also, in that it has not been shown that the ingestion or reception into the human system of excreta containing the comma bacillus will produce the cholera. On the contrary, if we can accept the current reports, there is at least the testimony of one experimenter that it will not.* The inoculations practiced by Kock himself were barren of result.

5. If the fact were demonstrated that the ingestion of choleraic discharges containing either of the microbes mentioned would cause cholera, the question would remain which of the microbes hitherto described was the efficient agent, or whether any of them were, or indeed whether it was not some microbe for the discovery of which the microscope has not yet been invented; and, finally, whether it is a germ of any kind, or only the fluids in which they are contained, and which have undergone some peculiar changes, for the detection of which no microscope hereafter constructed may prove sufficient. By successful inoculation of the germs alone, after they have been completely isolated by cultivation, could they be proved to be the cause of cholera; and this has not been done.

I do not wish to underestimate the importance of microscopic studies; nor can I always accept of the estimate which some seem disposed to place upon them. They have added greatly to our knowledge of disease, and give us encouraging promise for the future; but, so far as cholera and a majority, to say the least, of other epidemic and infectious diseases are concerned, they have not taught a single lesson either in the prevention or the cure. Their germicides kill the microbes when they are attacked outside of the body and removed from their native element, but they are harmless to them when the assault is made inside the human body; consequently, the unfortunate patients continue to die since the supposed discovery of the parasites the same as before.

It is not *positively* determined that the infecting material is not hereafter to be found in the blood or tissues of the body, in the breath, or in some other secretions than the intestinal. The experiments of the French Commission would at least seem to show that it is in the blood.

When, therefore, Koch places in contrast the results of microscopic investigations and the results of experience, declaring that the latter has not taught us the successful treatment of cholera, he permits the reader to draw an unfair inference. The contrast is not unfavorable to experience, inasmuch as it has taught us something, indeed, as will hereafter be shown, a great deal, in reference to the treatment of cholera, while microscopical studies have taught us absolutely nothing.

6. The cholera-germ may be conveyed from place to place by clothing or any other textural fabrics, by articles of food, or by water, and by many other animate and inanimate substances.

*The statement has been repeated more recently by the "Medical Record" (November 8, 1884, p. 523.)

7. It may be conveyed for considerable distances by the air. How far it can be thus conveyed it would be impossible to say, but probably much would depend upon the force of the wind and other atmospheric conditions. There is, no doubt, a limit to its conveyance by this method, and I have reasons to believe that it can not be thus conveyed beyond a mile or two.

Those who have denied, or permitted themselves to doubt, that cholera can be thus conveyed have, it seems to me, either been inexperienced, or they have closed their eyes to the testimony which the experience of almost every epidemic supplies in such abundance.

8. The theory of Koch that the germ only finds its way into the system through the mouth and stomach is the necessary corollary to his belief that the comma bacillus is found only in the alimentary canal, and that it is the true germ or cause of the disease, and the only medium of its propagation; but it can not be inferred from any facts observed by me in the histories of those epidemics in which I have had a personal experience, nor from anything I have seen recorded in my studies of this affection. That it may be one of the modes of propagation may be admitted, but that it is the sole or even the principal mode of propagation has no foundation other than Koch's unproved, and to me improbable, theory that the comma bacillus is the true germ of the cholera.

9. There is quite as much reason to believe that it is conveyed into the system by the respiratory organs, and that it diffuses itself throughout the entire body through the circulatory system, like any other septic infection, and that the specific symptoms and the specific choleraic intestinal secretions are the results of a general systemic infection. Why the poison expends its force in one direction or another, or why, perhaps, it seeks to eliminate itself through one organ of the body rather than another, can not be explained any more than we can explain the preference of eruptive contagious maladies for elimination by the skin, and the preference of other septic infections for other organs and tissues. It certainly is not necessary to assume, because the intestinal secretions are changed and the intestinal mucous membrane is congested, that the virus was implanted originally in the intestinal canal. The blood, the perspiratory and the renal secretions, and the kidneys themselves, undergo changes quite as marked and distinctive as those which take place in the intestinal secretions and in the mucous membrane of the intestines.

10. It is probable that the cholera-germ or virus, although it may have been received into the system, does not necessarily infect the system, or give rise to cholera.

It seems probable that every person living in, or even entering temporarily, a cholera atmosphere, receives more or less of the virus into his system; but of those persons thus inoculated many do not suffer in any degree, and others only slightly, while a small proportion are taken sick and die.

It is true also of all other infectious diseases, that inoculation or the reception of the virus into the system does not necessarily produce the specific disease. Especially is this true of all eruptive infectious diseases. But in the case of most infectious diseases a large proportion of those exposed become infected, while in the case of cholera a very small proportion become infected. In other words, a suitable soil, or suitable conditions for the development of the germ, are usually found in the former, while in the latter they are seldom found.

We, of course, must except from this general statement, in regard to other infectious maladies than the cholera, variola in case the patient has been protected by vaccination. Cholera differs also from many other infectious maladies in that one attack affords no protection against a second.

11. The conditions requisite to render the inoculation of cholera by the ordinary methods effective are all those conditions which cause, or coexist with, disturbance of the natural secretions of the alimentary canal, including fear and other depressing mental emotions; the presence in the bowels of undigested, fermented, putrefying, or of other acrid ingesta; deterioration of the air habitually inhaled, from personal filth, and from overcrowding in ill-ventilated apartments; inhalation of the air from putrefying masses of vegetable or animal matter, from stagnant pools of water, or from soils freshly exposed; and, finally, the concurrence of a warm and moist condition of the atmosphere.

Of all the conditions enumerated as favoring the germination of the cholera germ, none are probably so efficient as the inhalation of the vapors arising from a freshly exposed soil, especially if it contains decaying vegetable matter, and the concurrence of a humid state of the atmosphere with an elevated temperature.

The poor, both in cities and in the country, mostly occupy the lowest lands. If these lands are alluvial, and especially if underlaid with clay so as to retain the moisture, they favor the propagation of cholera as well as of other diseases. The preference which most epidemics show for the habitations of the poor is therefore often susceptible of another explanation than that their personal habits are uncleanly, or that they suffer from overcrowding and bad ventilation.

In addition to the testimony furnished by the Suspension Bridge epidemic, as to the relations existing between low and alluvial soils and the propagation of the cholera, I could add a personal experience in Buffalo and New York, but especially in the former city, through several epidemics. In Buffalo a low and *sandy* plain, bordering upon the lake and wholly occupied by Irish shanties, was almost entirely exempt.

In the report of Mr. Farr, Registrar-General of England, for 1848-'49, may be found a very full and complete statistical statement upon this subject; and after having taken into account, as contributory conditions, density of population, poverty, intemperance, uncleanness, and many other causes, Mr. Farr concludes that the influence of a low and unwholesome soil was by far the most potent exciting cause. "It has been seen," he says, "how rapidly in London the cholera diminishes a few feet above the low ground on a level with the Thames."

This observation was not made for the first time by Mr. Farr. It is as old almost as the existence of the cholera. Exceptions have been noted from time to time, as, for example, in the frequent occurrence of the cholera at Bellary, in India, where an English fort is built upon a granite rock 500 feet high; but in this case, as probably in all other similar exceptional cases, a sufficient purely local cause can be found, and the exceptions do not affect the value of the general law which has been stated.

Need I remind you, gentlemen, of the terrible fatality of this scourge at Toledo and Sandusky, Ohio, in 1849, in the latter of which cities alone seventeen physicians died of the disease? Both of these towns are situated upon low and exceedingly rich alluvial plains.

As to the effect of a fresh exposure of an alluvial soil, or of soils more or less impregnated with decaying vegetable matter, permit me to refer briefly to an experience at Buffalo.

On Saturday, July 24, 1852, a ditch was commenced for the purpose of laying pipes through Ellicott Street, Buffalo. On Monday the work was renewed, and it was opened completely on Tuesday. The excavations brought to the surface a large amount of alluvium underlying made ground of clay and sand. The cholera was prevailing in a mild form in some other parts of the city, but Ellicott street had always been regarded as healthy, and had almost entirely escaped in previous epidemics. It was occupied by the best class of citizens. There were twenty residences upon the portion of this street corresponding with the ditch. On Monday the first case of cholera occurred among the residents, and on this and on the two following days there were nineteen cases and nine deaths. The ditch was closed, by order of the Mayor, on Wednesday, and from this date there were no new cases*

11. There has been as yet no specific discovered for the treatment of Asiatic cholera. Nor can we entertain much hope that there ever will be, Science has hitherto brought to our knowledge very few specifics for disease, and none have ever been found for any of the infectious epidemic diseases, and, considering the great number of medical men who have earnestly sought to discover a specific for cholera, and the infinite variety of medicines which have been employed, it would seem that there could remain but little ground of hope that it would ever be discovered.

We have learned from clinical experience, however, in the case of cholera, much more than we have learned in the case of any other infectious epidemic malady. We can not terminate abruptly or abort the small-pox, measles, chicken-pox or scarlatina. We can only control or modify them, so as to conduct them to safe terminations at their allotted periods. On the contrary, we can and do generally abort the cholera. A large majority of those who are treated by appropriate remedies, and especially if removed promptly from the influence of predisposing causes, recover quickly. To justify a denial of this, it will be necessary to assume that the diarrhoea which, in most cases, precedes the vomiting and collapse, does not usually indicate the presence of the choleraic virus in the system—an assumption which implies that the cholera, unlike nearly all other diseases, has no admonitory prodromes. Such an assumption is unreasonable, and it is not warranted by any facts of observation.

It is not often that a patient is saved to whom remedies are not applied until the algid period, or period of collapse, has arrived; but a large proportion are saved by appropriate remedies employed in the earlier stages of the disease. Dr. Yale, in the report on the cholera at Blackwell's Island, hereafter to be referred to, says that of those brought first to the "diarrhoea hospital," not one died.

The means which have been most successfully employed are essentially those which have long been known to be successful in the treatment of diarrhoea, cholera morbus, and other allied affections. According to my observation, the remedies which have proved most efficient prior to the period of collapse are opium and absolute rest. Opium, in a solid form, should be preferred to morphine, as

* "Buffalo Med. Jour.," September, 1852, p. 228. My report to Buffalo Med. Assoc.

being less likely to provoke nausea. It should be given to adults, in doses of from half a grain to a grain, every three or four hours until the diarrhœa is restrained, or until *moderate* narcosis is produced. The production of excessive narcosis is seldom or never judicious, nor should the opiates, as a rule, be stopped suddenly, lest in either case nausea should ensue. Under no circumstances should the patient be permitted to rise, or even to occupy the sitting posture, after taking opium. If for any reason tincture of opium is preferred, it should be combined with tincture of ginger or some other diffusible stimulant. If morphine is used, it should be placed upon the tongue dry, and swallowed with not more than a teaspoonful of water.

As in ordinary diarrhœa, so also in the early stages of the diarrhœa of cholera, in case the stomach or bowels are known to contain highly irritating ingesta, a single brisk cathartic may be first given, and this to be followed, after a sufficient evacuation, by the opiate.

It is not intended to say that other medicines may not sometimes control the promonitory diarrhœa, but only that the writer has found the simple formula described the best.

If one should wish to render the theory of this treatment consistent with the theory of the existence of a cholera germ, it is only necessary to suppose, what seems probable, that the period of life, or of activity of the germ in the human system, is brief, and that the opium holds the secretions in a normal condition until the germ perishes or the force of its virus is expended.

There is much clinical experience which tends to show that in the human system the period of life or of activity of the germ is brief; and to this we may add one of the conclusions of the French Commission already referred to, namely, that "the blood of a choleraic patient, by cultivation, after a few hours loses its infectious properties."

We may also, I am persuaded, diminish the severity of an attack or arrest its progress by the prompt removal of the patient outside of those atmospheric, telluric, and other influences which are known to cause the development and propagation of the cholera.

12. Removal of an infected person to a perfectly healthy region—that is, a region supplying none of the conditions favorable to the development and propagation of the disease which has been named—does not in most cases cause a propagation of the disease in that region; but, like brands scattered abroad from burning buildings, provided they are not thrown among material already in a proper condition for combustion, they usually cause no further mischief.

Medicine in the Past and Present.

Dr. John L. Davis publishes the following remarks in the *Cinn. Lan. and Clin.*, October 4, 1884:

If we wish to understand what the tendencies of medicine are for the future, it is essential as well as interesting to look over the past. We must know what our predecessors did; what theories and methods prevailed; what superstitions lived and passed away; how false science faded under the light of knowledge, shining at first dimly and fitfully through the darkness of ignorance, but grow-

ing brighter and brighter as the years rolled on. In every department of knowledge it is only by understanding what has been that we can predict what will be.

The earliest history of all primitive peoples shows us that the first physicians were the priests. And you can readily understand why this should be so; for among ignorant unenlightened people every calamity, including, of course, sickness, is regarded as the direct manifestation of the anger of the higher powers. The gods are offended, and must be appeased. It is the priests, then, upon whom the duty rests to propitiate the angry gods by means of prayers, sacrifices, incantations, and the various religious rites peculiar to superstitious people. The priests consequently by these means can cure disease and ward off epidemics. Such are the superstitious notions, which history shows us prevail among all nations in their infancy.

When Cæsar nearly two thousand years ago crossed from northern Gaul over into Britain, he found the descendants of the old Druids there, a priestly class, who combined the offices of priest, bard, and physician, and drove disease off by resorting to the wildest orgies and strangest ceremonies. But such absurd methods were not confined to the ignorant Druids. Similar customs prevailed among the ancient Egyptians and Greeks. And at Rome, after it had reached a high degree of culture and intelligence, we are told there were no physicians for six hundred years. Their duties were performed by the priests, and we may be sure that whatever virtue there was in the few medicines administered was more than counteracted by the foolish ceremonies which appeared to constitute the chief part of the treatment. But we need not go back as far even as Roman history to find the priest-physician. In our own country only two hundred years ago the clergy assumed as part of their duty the care of the sick. While these old Puritan clergymen were looking after people's souls, it was believed they were the safest guardians of their bodies at the same time. And the crude drugs which they gave, owed, according to popular belief, much of their efficacy to the religious rites with which they were given. It is Egypt whose authentic medical history takes us back most remotely. The old Egyptians had a god of medicine, called Thaut, the same as Hermes and Mercury with the Greeks and Romans. The sick were under the special charge of Isis, and in the temples of this goddess myrrh and other substances were burned three times a day. To the temples thus filled with medicinal fumes, the sick were brought to be cured, relying more upon the sacred surroundings than upon any supposed healing power in the incense. A certain plant was worshiped by the old Egyptians on account of its healing properties, and temples were built in its honor. After the period of priest-physicians had passed away, the practice of medicine was in the hands of physicians. But according to Herodotus each physician limited his practice to a single form of disease. Thus one would concentrate all his attention on consumption, another would never treat any disease but rheumatism; a third would limit his usefulness to the care of persons suffering with gout or whatever similar ailment afflicted those old people. So you see that the practice of specialities was more refined and minute 4000 years ago than it now is.

When the doctors had failed to benefit a person after a fair trial, the patient was exposed at a prominent place on a public road, in order that passers-by might see him and suggest some treatment, which they had perhaps witnessed in other

lands. And persons were required by law to stop and question the sufferer as to his ailments, and if possible to benefit him. When they neglected to do so they were severely punished. The practice of exposing the sick in order to secure hoped-for aid from travelers passing by, was common in almost all old countries. Among the Egyptians, 3500 to 4000 years ago, some remedies in common use were: wine, spices, gum, cassia, salt, myrrh, white lead, verdigris, crocodile's fat and certain ointments; fumigations and baths also were often resorted to for their healing properties.

But at a very early period the medical skill and knowledge of the Egyptians yielded to the growing intelligence of the Greeks. It is recorded that 1500 B. C. Melampus employed iron and hellebore as remedies. He, by the way, was a soothsayer and physician.

A century later Æsculapius lived, the half-mythical physician and surgeon. His medicines were not numerous, nor to our thinking very effective; but their power was augmented and marvels accomplished by a judicious and generous use of charms, potions and amulets. As a result of his wonderful ability in the healing art Æsculapius became enrolled among the gods of the Greeks.

He had many famous descendants, a number of whom fought in the Trojan war, but the greatest of all was in the eighteenth generation from him, Hippocrates, the Father of Medicine. He was born 450 B. C., and lived to be eighty or eighty-five years old.

He attributed disease to alterations in the fluids of the body. The fluids were four in number, and whenever any one was in excess, disease of a corresponding type resulted. Hippocrates was familiar with all medical knowledge existing at his time, though this in fact was not much; but he was above all others a careful and painstaking observer, and his writings reveal the most minute and thorough study of disease, with the aid of such limited advantages as that remote age offered. His remarkable descriptions of the symptoms of disease stand unrivalled even to-day. So accurately has he pictured the countenance of a dying man, that its appearance is fully indicated by the term, the "Hippocratic face." His wonderful description of pulmonary consumption, embracing its symptoms and clinical history, has not been improved upon in twenty centuries, and the treatment he advises for this disease is almost identical with that in practice to-day. The materia medica of Hippocrates embraces more than 400 drugs; he used the cautery, he advocated bathing, exercise, blood-letting; and his instructions upon diet are valuable even to-day.

Hippocrates was one of the most wonderful men of any age. His marvellous ability caused him to be honored and almost worshiped for centuries, and his writings were unquestioned authority upon medicine until within a few generations of our time. For 2000 years his methods were followed, and so thoroughly believed in, that but few modifications or innovations would be countenanced by the people. Nevertheless, many surgeons and physicians attained eminence in the centuries immediately after Hippocrates. The following may be named:

Diogenes Carylus, who wrote upon plants and diet; Theophrastus, the founder of botany; Heraclides, called the prince of empirics. About the first century of our era, Dioscorides lived, the most celebrated of all old writers on the subject of materia medica, and his work continued to be the undisputed au-

thority for 1500 years. He wrote an impure Greek, introducing many arbitrary idioms, so that his descriptions are often ambiguous and equally applicable to several different plants. The rude pictures of the plants which accompany the descriptions tend to still further increase the uncertainty. From this vagueness it results that his admirers had no difficulty in finding any plant whatever in the book of Dioscorides, and they firmly believe that his descriptions cover not only every plant known throughout Europe in his day, but new species that have been discovered since. It is asserted that when the potato was introduced into Europe from America, enthusiasts found it already described and pictured in Dioscorides' wonderful book!

In the year A. D. 131, Galen was born in Asia Minor. He was a remarkable genius, brilliant, and of vast learning. He was the first eminent writer after Hippocrates who ventured to suggest changes in the methods advocated by the Father of Medicine. He wrote a full commentary on Hippocrates' works, and added numerous new views which were subsequently in practice until modern times. According to Galen's theory, disease is due to an excess of heat, cold, dryness or moisture, and this idea prevailed for 1400 years. Galen described 800 medicinal plants, minerals and animal substances.

About this time—a little earlier in fact—Pliny the Elder wrote in Rome. His works are a vast encyclopedia, a storehouse of all science, natural and philosophical, as well as medical, which existed at his time. His writings displayed a marvellous industry and great ability.

Other writers who flourished about this time were Oribasius, Ætius and Paulus Ægineta, the last especially introducing many valuable new drugs.

But the theories advanced by Hippocrates and Galen were so well grounded, and held in such esteem, that no changes were made in medical practice even after some of their absurdities had become recognized.

From the fifth to the tenth centuries medical knowledge in common with all sciences in Europe felt the depressing, almost annihilating influence of the Dark Ages. But during this time great progress was made in the East. The scene of medical advance shifted from Europe to Asia. And we find that in the dark period of one continent's history, the light is shining most brilliantly in the other. Our attention is called to Persia, and especially to Arabia. Here under the fostering care of favoring caliphs all learning is stimulated, colleges and libraries are established, the best teachers and most noted men are induced to come to Bagdad, the great centre of progress. So great was the impulse given to science of all kinds, and no less than 6000 medical students and teachers were in Bagdad at one time. Under such favorable auspices it is no wonder that some of the most renowned names are those of Arabians. The mention of a few will suffice: Geber, A. D. 702, was the first chemist. Rhazes (died A. D. 923) wrote, among other works, ten books on chemistry. His writings on small-pox and measles are very accurate descriptions, though they are the earliest works on those diseases. Serapion, A. D. 742, was eminent both as an original writer, and on account of his compilations. Ali Abbas, A. D. 994, wrote the earliest work on diet. But the greatest of all was Avicenna (A. D. 998), called the prince of physicians. He has been compared on account of his genius and learning to Galen and the philosopher Aristotle. He was the last eminent physician born in

Arabia. But already the Moors were developing a great center of high civilization in Spain, whither the glory of the Arabians was soon to be transferred. Cordova became the greatest medical school of the world, and for several centuries its pre-eminence was undisputed. In the 12th century in Spain there were seventy public libraries which had been established by the Moors, and up to that time more than three hundred medical writers had come from this remarkable people. First among these eminent names is that of Albucasis (died A. D. 1122). He was a most renowned surgeon, and for many generations his writings on surgery formed a text-book for teachers as well as for students. Avenzoar (A. D. 1169) was noted for his accuracy of description. It is said that he was the first to describe pericarditis, dropsy and empyema.

Another noted Moor was Ebn Beitas, who wrote on botany. He was the last physician of note among his people.

With regard to the Arabians and the Moors, it may be said that their chief contributions to medicine were in the domain of chemistry and pharmacy. In other directions they did little more than to translate Greek and Latin works. Their one surgeon, Albucasis, stands pre-eminent, and many centuries passed before his successor appeared. The overthrow of Mohammedanism in the west marked the downfall of learning in the centres of Spain. The colleges and libraries were destroyed, and eminent teachers driven from the country and scattered never again to be brought together.

During the period of Arabian and Moorish pre-eminence, in other parts of the world the practice of medicine was in the hands of the monks, who engaged in the work as an act of religious duty. But their practice was characterized by the grossest fanaticism and the most absurd performances. The bigoted monks scorned to learn anything from the heathen Mohammedans, even though they might thereby more certainly relieve the sick. As a consequence, their medical practice consisted chiefly of a resort to prayers, with the employment of relics of martyrs, and holy water. They were in fact "pious and fanatical nurses."

In the latter part of the eighth century the emperor Charlemagne gave learning a powerful impulse by founding schools, endowing libraries, and bringing to his country the best teachers that could be procured. It was in the year A. D. 805, that the emperor ordered medicine taught in the various schools and some of the cathedrals which he had before this established in France. But the impulse to learning given by Charlemagne was not permanent, and before three centuries had passed, medical practice was regarded so low and disreputable, that the clergy, especially of France, were forbidden to practice the art.

Nuns also engaged in the healing art as an act of charity. Hildegard (1098,) abbess of a convent near Bingen—"Bingen on the Rhine"—was so successful in the application of remedies to the cure of disease, that she has been numbered among the saints. Though she was consulted upon medical questions by some of the highest clergy in the land, her *materia medica* contains some very strange and absurd drugs. Thus, for the cure of witchcraft she employed fern; for itch, hering; and for various skin diseases, the ashes of flies.

The Benedictine monks in Italy advanced medical knowledge very considerably, but still superstition of the grossest kind abounded. Strange theories and philosophies had been introduced from the East through the crusades, and it was

impossible to eradicate these from the practice of medicine. The phases of the moon, planetary conjunctions, and various similar astrological conditions, were believed to be essential considerations in the treatment of disease. Kings were thought to be endowed with the healing touch. Such diseases as goitre and scrofula yielded instantly to their magic power. For this reason the latter disease became known as the king's evil, for the king alone could cure it.

The beginning of the fourteenth century was characterized by an event which indicated a spirit of progress, and as a matter of fact, was a most important factor in the subsequent development of anatomy. In the year 1315, Mondini di Luzzi dissected a human body before a class of students—the first dissection, it is said, which had been made in seventeen hundred years. With the old Greeks dissection was forbidden for the reason that they supposed the soul of a person who had died was compelled to wander about the river Styx until the body was buried or burned, consequently speedy burial was always religiously enforced. The religion of the Mohammedans also forbade human dissection. Through these causes it came to pass that so many centuries elapsed before an instance of human dissection occurred.

Mondini's description of his dissection was used for several centuries in the medical schools. But those old teachers had a strange way of teaching practical anatomy. A barber's boy dissected the body, while the professor read from Mondini's book the description of various parts. Nevertheless anatomical knowledge progressed very favorably. But in the other departments of medicine advance was slow, impeded as it was by the foolish notions of science which had been brought from the East. Even in the fifteenth and sixteenth centuries medical practice was tainted with the absurdities, astrological and others, which through Moorish supremacy and the influence of the Crusades had become deeply rooted in Europe. However the injurious effects of these blighting influences gradually disappeared, and towards the close of the sixteenth century considerable scientific progress was noticeable, particularly in the department of *materia medica* and pharmacy. More careful translations of the old writers were made, schools and colleges were established, and new theories began to be introduced which ultimately took the place of the antiquated notions based on false science.

Among the other noted writers and teachers who came into prominence about this time was Paracelsus. He was probably the most celebrated and arrogant quack that ever lived. In the frenzy of his boastfulness he declared that as Hippocrates embodied the genius of Greece, he himself embodied that of Germany. He burned the writings of his predecessors, claiming that he had more knowledge than was found in all the universities of the land, and that the hairs of his head were wiser than all the doctors who ever lived! His real name was Hochener, which was much too humble for him, so he assumed one in keeping with his character—Philippus Aureolus Theophrastus Bombastus Paracelsus? And by the last section of this high-sounding name he is known in medical history. His overbearing boastfulness can in a measure be pardoned when we remember that he contributed considerably to medical progress by bringing into a more favorable view certain mineral remedies which he used.

Toward the close of the sixteenth century many great physicians lived, both as teachers and writers. Sylvius was one of these, the true founder of anatomy in

France. He was the first man to inject the blood-vessels. Vesalius, too, lived at this time, a most accurate and painstaking anatomist; and Eustachius, Fallopius, Fabricius, and Servetus, all of whom made valuable discoveries in the field of anatomy, and laid the foundation for the most important event in the medical history of any age, namely, the immortal Harvey's discovery of the circulation of the blood, which ushered in the seventeenth century.

From this time forth medical knowledge was established upon a more rational, scientific basis.

Then the great Malpighi, of Bologna, lived and contributed to medicine the results of his investigations with reference to the blood corpuscles. As a result of the work of these eminent men, anatomy and physiology received a most favorable impetus, and to the present day their progress has continued unchecked.

But the science of diagnosis and treatment of disease had been still retarded by the same old false notions derived from the East, and made still worse by the ideas inculcated by such men as Paracelsus and the sect called Rosicrucians. The Rosicrucians held that all diseases could be cured by faith and the imagination, without the employment of drugs. They claimed that a certain magnetic or mesmeric influence passed from the true Rosicrucian into the patient and thus cured him; even the simple glance of the eye was sufficient to banish the severest malady. At the same time notions of astrology, witchcraft and other absurdities still prevailed and pervaded science. The "Sympathetic Powder" illustrates the strange credulity and superstition of time. This powder healed the wound, not by being applied to it, but to the weapon that caused the injury. Hence it was firmly believed that if a man was stabbed he would recover rapidly if the powder was put upon the dagger and changed twice a day, while the wound itself was let alone altogether.

You must not imagine that such pitiable credulity was confined to the remotest ages, for Sir Kenelm Digby's "Sympathetic Power" was a popular remedy only two hundred years ago. We can certainly agree with Dr. Oliver Wendell Holmes who says: "Man is a gullible animal, and likes to be humbugged."

Toward the close of the seventeenth century, accurate knowledge began to triumph over crude theories and superstition, and many noted men came into view—Wharton, Willis and Steno, Bartholin, Spigelius, and the great Ambrose Paré, surgeon to four successive French kings; then Boërhaave lived, and Schneider and Glisson, and greater than these, Sydenham, "the English Hippocrates."

And in the eighteenth century we find the eminent names of Hunter, Jenner, Lieberkuhn and Cullen. Stahl and Hoffman brought forward their theories of medicine; Morgagni, Pacchioni and Baglivi were names which Italy gave to the eighteenth century; Meckel, Baudelocque and Scarpa, and many others of almost equal note, lived at this time.

I shall not attempt even to name the mighty men whom the nineteenth century has given to the world; time would fail me, and your patience has already been taxed too long. It is safe to say that in fifty years alone the progress of medical science has done more to benefit mankind than all the centuries before accomplished; the advance in pathology, in diagnosis, in therapeutics, of a single generation has been marvelous; every year adds more to medical knowledge than

man's mind can grasp. We are practicing to-day upon a scientific basis—at least, we think we are—but who can say how it will look a hundred years from now? I believe many of our most cherished methods and favorite medicines will then seem as improper and irrational as salivation and blood-letting appear to us to-day. It was only a hundred years ago that the great Dr. Rush gravely declared that “salivation has cured many cases of consumption.” Less than forty years have passed since one of the most eminent writers of our country said, “In pneumonia the most effective weapons are blood-letting and tartar emetic.” Such ideas as these, advocated by the leading men of their times, cause us to look with pity upon their unscientific methods. But what will another generation say of our practice? We have only to bear in mind the past, in order to realize how errors to-day unsuspected will be revealed by the brighter light of the years to come.

Vegetarianism.

Dr. B. W. RICHARDSON's address, delivered at the dinner recently given by the Vegetarian Society at the Health Exhibition, was calculated in some measure to raise the hopes of those who look upon the flesh-pots as an abomination, and the consumers of animal food as guilty of depraved habits. Yet, although the speaker inveighed against the prevailing custom of a too exclusive indulgence in the carnivorous instinct, he discounted much that might have been taken as an advocacy of strict vegetarianism. There were, he said, vast social and commercial problems involved in the question that was now moving a section of the community to effect what they believed to be a reform in our national dietary. We have only to consider for a moment the utter confusion in the order of nature that would ensue on our refusing to resort to the animal world for a part of our sustenance. We are not of those who hold that the length of the intestinal canal is proof that man was never intended to regale himself with the luscious bivalve, or with well-seasoned game. Science teaches that structure and function are very closely connected, and a study of the doctrine of evolution reveals the fact that the anatomy of individual organs is largely dependent upon the work those organs have to perform. John Hunter showed this to be the case by the experimental feeding to which he submitted his tame gull. That the resources of the vegetable world are not drawn upon to anything like the extent that they should be we freely admit. Moreover, there can be little doubt that partial abstinence from, or in other words moderate ingestion of, animal food checks the craving for alcoholic stimulants, and thus proves itself a very desirable condition of life. But to declaim against the abuse of a particular viand is quite consistent with admitting its use. The members of the Vegetarian Society are to be congratulated upon the good they have already done and are still doing; but they must not be disappointed if they find that their arguments do not carry conviction to the minds of all those whom they address, or at any rate to the full extent of their desires.

V. CLINICAL MEDICINE.

The Dietetic Treatment of Dyspepsia.

DR. AUSTIN FLINT publishes the following interesting paper in the *N. Y. Med. Jour.*, November 22, 1884:

The term dyspepsia is often used in a sense nearly or quite synonymous with the term indigestion. These two terms are defined in Dunglison's dictionary as equivalent. The French dictionary by Littré and Robin and the recent "Dictionnaire Usuel" give to each term a distinct definition. In the "Real Encyclopédie," commenced in 1880 and completed in 1883, indigestion is not treated of as separate from dyspepsia, the former being considered as embraced in the latter.

The name dyspepsia, from its derivation, denotes an affection not necessarily involving indigestion. The name signifies difficulty of digestion. Now, digestion may be difficult, and attended by more or less suffering and disturbance of the nervous system, the digestive function, nevertheless, being duly and completely performed. Clinical observation shows that dyspepsia, in this sense of the term, occurs without indigestion, the latter term embracing the various forms of disordered digestion. Cases are of frequent occurrence in which symptoms arising from difficult, or, as we may say, labored digestion, are unattended by symptoms that denote any perversion or incompleteness of the digestive function. It may be said, and justly, that dyspepsia is often associated with indigestion, and that the latter can hardly exist without the former; but the point which I wish to make at the outset of this paper is, that the term dyspepsia denotes an affection distinct from, and irrespective of, indigestion, the latter term being considered as denoting an affection characterized by such symptoms as nausea, vomiting, flatulence, acidity, and diarrhoea—symptoms which show the digestive function to be either perverted or incomplete. By late German writers the affection which it suffices to call dyspepsia is designated nervous and neurasthenic dyspepsia.*

In this brief paper I must be content with an enumeration of some of the symptoms which belong to the clinical history of dyspepsia. The local symptoms referable to the stomach are a sense of weight or of oppression in the region of the stomach after the ingestion of food. The abnormal sensations are sometimes of an indefinite, distressing character. There may or may not be tenderness on

* *Vide* articles by Leube and Ewart in "Verhandlungen des Congresses für innere Medicin," Dritter Congress, Wiesbaden, 1884, together with a discussion by several members of the Congress. Leube has demonstrated the existence of nervous dyspepsia, without any disturbance of gastric digestion, by withdrawing the contents of the stomach at different stages of the process of digestion, and ascertaining, by the use of the stomach-tube, the duration of this process in the stomach of patients suffering from dyspepsia.

pressure in this region. Absolute pain is sometimes felt. These local symptoms are much diminished, and they may disappear when the stomach is free from ingesta. The appetite may be more or less impaired, but it is often not diminished, and not infrequently it is increased. Patients complain in some cases, of what is vulgarly known as a sensation of "goneness."

The symptoms, aside from those which are local, as regards the stomach, relate especially to the nervous system. Patients are depressed, irritable, and hypochondriacal. There is lack of buoyancy, energy, and of both physical and intellectual endurance. Vertigo is a not infrequent symptom. Neuralgic pains in the head and elsewhere are common. Sleep is disturbed, or there is insomnia. Disordered action of the heart is of frequent occurrence. Constipation is the rule. There is an undue susceptibility to cold. All these symptoms may be measurably explained, in many instances, by co-existing anæmia. The dyspepsia leads to impoverishment of the blood, often because alimentation is reduced below the needs of nutrition, and this condition tends in no small degree to increase the dyspepsia and render it persistent. The symptoms referable to the mind are, doubtless, in part secondary to dyspepsia, but I have long held the opinion that the mind plays an important part in the ætiology of the affection.

In 1841 I contributed to the "American Journal of the Medical Sciences," a paper entitled "Dyspepsia as Connected with the Mind." In that paper I described the mental disorders often associated with difficult or labored digestion, and expressed the opinion that these disorders are not entirely effects of dyspepsia, and that the causes of this affection may be mental. This view of the ætiology was at the time novel, and, at the present time, is by no means fully recognized either in theory or practice.

I had been led to regard dyspepsia as, in many instances, referable to the mind, by personal experience. Notable distress attending the process of digestion, and accompanied by great mental depression, despondency, and apprehensions, followed a change from college excitements and pleasures to a comparatively solitary life in the country and the commencement of the study of medicine. Instantly on beginning to attend medical lectures in the city of Boston, and coincident with exuberant spirits, dyspepsia disappeared.

At the time when the paper to which I have referred was written, dyspepsia, in New England, prevailed very generally among the classes of society which may be distinguished as educated, or, perhaps, as may be better said, the reading and thinking classes. Exemption from this affection was an exception to the rule. The contrast between that time and the present time in that regard is striking.

How is this contrast to be explained? The explanation in part relates to the mind as involved in the causation of dyspepsia, and partly to dietetics.

A half-century ago most maladies were supposed to originate in the *primæ viæ*, as the digestive organs were significantly called. It was enjoined upon all who desired to preserve health to watch closely these organs, and to make a constant and careful study of diet with reference to digestion. Dietetics and digestion, next to the weather and politics, furnished the topics for common conversation. The evils of the gratification of the appetite for food furnished themes for writers and preachers outside of the medical profession. Moral as well as

physical ills were referred to errors in diet, for which the sufferers were held responsible. There are a few at the present day who entertain those ideas which were so common fifty years since. Within a few months I have received a sermon by a clergyman, in which a strictly regulated and spare diet is recommended as indispensable not only for health, but for good morals and religious faith.

The views generally entertained, at the time to which I have referred, largely by physicians and almost universally by non-medical sanitarians, may be summed up in a few maxims as follows: Eat only at stated periods—twice or thrice daily, never between meals, no matter how great may be the desire for food. Never eat late in the evening or shortly before bedtime. In the choice of articles of diet, carefully select only those which reason and personal experience have shown to be best digested; never yield to the weakness of eating any article of food simply because it is acceptable to the palate. In order to avoid the temptation of over-eating, let the articles of food be coarse rather than attractive, and eschew all the devices of the cuisine. Always leave the table hungry. Study personal idiosyncrasies, and never indulge in kinds of food which, although wholesome for most persons, are injurious to the few who are peculiarly organized. With reference to this last maxim, bear in mind that “what is one man’s meat is another man’s poison.” In order to secure, as effectually as possible, a proper restriction in the quantity of food, it was recommended by some physicians, and to some extent practiced, that every article be carefully weighed at meal-times, and a certain quantity by weight never exceeded. Vegetarianism, or Grahamism, was advocated and practiced by many. Total abstinence from drink was considered by a few a good sanitary measure, compelling the body to derive the fluids needed exclusively from fruits, vegetables, and other solid articles of diet. Restriction in the amount of drink, as far as practicable with regard to the power of endurance, was very generally deemed important, so as not to dilute the gastric juice.

Dyspepsia formerly prevailed chiefly among those who adopted, to a greater or less extent, the foregoing maxims. It was comparatively rare among those who did not live in accordance with dietetic rules. The affection is much less prevalent now than heretofore, because these maxims are much less in vogue. The dyspeptics of the present day are chiefly those who undertake to exemplify more or less of these maxims. It seems to me, therefore, a fair inference that dyspepsia may be produced by an attempt to regulate diet by rules which have for their object prevention of the affection which they actually produce. It is to be added that an important causative element involved in the practical adoption of these rules is the attention thereby given to digestion. It is by introspection and constant watchfulness of the functions of the stomach that the mind exerts a direct influence in the causation of this affection.

The foregoing views of the ætiology of dyspepsia foreshadow the dietetic treatment. Considering the limits to which this paper must be restricted, I can perhaps best submit the general plan of treatment which I have for many years pursued by supposing a hypothetical case.

A patient presents the symptoms which denote difficult or labored digestion, with more or less of the associated symptoms which have been enumerated. We will assume the diagnosis to have been made positive by excluding gastric ulcer,

gastritis, carcinoma, and other lesions of the digestive organs. Renal and cerebral diseases have also been excluded.

I am accustomed then to ask the patient, "Do you regulate your diet?" The answer is generally in the affirmative, and it is often given promptly and emphatically. Then I say: "There is a good reason for your having dyspepsia; I never knew a dyspeptic get well who undertook to regulate diet." The patient is usually not a little surprised at these assertions, and may take issue with them. The success of the treatment will depend on the willingness and confidence with which the patient enters upon a reform in dietetic habits. "What system of diet do you advise?" is a question which is naturally asked. The answer is, that I have no rigid system of diet to advise, but that food must be taken in sufficient quantity and sufficiently varied to satisfy the requirements of assimilation and nutrition, and that this is not to be done by adopting any fixed rules regulating the amount and the kinds of food. "How am I to be guided?" is a question which naturally follows. The reply is: "Not by theoretical views of alimentation and digestion, no matter how much they may appear to be in accord with physiological and pathological doctrines, but by the appetite, the palate, and by common sense." The patient, if intelligent (as dyspeptics usually are), may be reminded of the fact that nature has provided appetite and the gustatory sense for the regulation of diet as regards quantity and variety. To oppose these natural regulations is to do violence to nature. If the patient is a clergyman, he may be taxed with a want of sufficient reliance on Providence. Providence or nature takes care of digestion, leaving only the claims of appetite and the palate for human oversight.

"But," the patient will be likely to say, "am I not to be guided by my own experience, and avoid articles of food which I have found to disagree with my digestion?" The answer is, that personal experience in dietetics is extremely fallacious. An article of diet which may cause inconvenience or indigestion to-day may be followed by a sense of comfort and be well digested to-morrow. A variety of circumstances may render the digestion of any article of food taken at a particular meal labored or imperfect. As a rule articles which agree with most persons do not disagree with any, except from casual or accidental circumstances, and the expectation, in the mind of the patient, that they will disagree. Without denying that there are dietetic idiosyncrasies, they are vastly fewer than is generally supposed, and, in general, it is fair to consider supposed idiosyncrasies as purely fanciful. Patients not infrequently cherish supposed idiosyncrasies with gratification. The idea is gratifying to egotism, as evidence that Providence has distinguished them from the common herd by certain peculiarities of constitution.

Dyspeptics generally have many questions to be answered. They are proverbially long-winded in giving a history of their experiences, and inquisitive as regards information from their physicians. Supposing our patient to be type of this class of patients, a full account of the matters discussed in a consultation would extend this paper to too great length. Suffice it to say that the maxims which have been enumerated as causative of dyspepsia are to be reversed in pursuing the plan of treatment which it is the purpose of this paper to submit. The instructions, abbreviated, will then be as follows:

Do not adopt the rule of eating only at stated periods—twice or thrice daily. Be governed in this respect by appetite; eat whenever there is a desire for food. Eat in the evening, or at bedtime, if food is desired. Insomnia is often attributable to hunger. In the choice of articles of diet, be distrustful of past personal experience, and consider it to be a trustworthy rule that those articles will be most likely to be digested without inconvenience which are most acceptable to the palate. As far as practicable, let the articles of diet be made acceptable by good cooking; as a rule, the better articles of food are cooked, the greater the comfort during digestion. Never leave the table with an unsatisfied appetite. Be in no haste to suppose that you are separated from the rest of mankind by dietetic idiosyncrasies, and be distrustful of the dogma that another man's meat is poison to you. Do not undertake to estimate the amount of food which you take, in this respect different persons differ very widely, and there is no fixed standard of quantity which is not to be exceeded. Take animal and vegetable articles of diet in relative proportions as indicated by instinct. In the quantity of drink, follow Nature's indication, namely, thirst. Experience shows abundantly that, with a view of comfortable digestion, there need be no restriction in the ingestion of fluids.

It is perhaps needless to say, but in justice to my subject it should be considered, that in these few remarks I have given but a rough outline of the dietetic treatment of dyspepsia, according to the general plan which for a long time I have advocated, and of the merits of which I am able to speak from not an inconsiderable experience. There are various incidental points of inquiry, and certain qualifications of statements, which a full consideration of the subject would embrace. The ground which I take is, that the diet which in healthy subjects is conducive to the preservation of health is the diet which is desirable in cases of dyspepsia. Restrictions of diet when digestion is difficult or labored, with a view to adaptation to a supposed diminished capability of the digestive organs, I believe to be never successful, and injurious in proportion as the restrictions involve diminished assimilation and nutrition. It is a fallacy to suppose that the digestive organs in dyspepsia need rest. Exercise of the functions of the different organs of the body tends to the maintenance of their functional capabilities. Some old writer said that the stomach was like a school-boy: unless kept pretty constantly occupied it was sure to get into mischief. There is an important practical truth in this remark. If the stomach behaves perversely, like the mischievous school-boy, the patient should conquer the stomach, and not the stomach the patient. This simile may sometimes be used with advantage in order to make patients not afraid to rely upon their digestive powers.

This paper, on account of the limitation as to time, does not afford an opportunity for the introduction of reports of cases; were it otherwise, I could cite many illustrations of the success of the general plan of treatment which I have outlined. In some cases which have come under my observation, patients who had been chronic dyspeptics for many years found themselves at once cured by adopting a full and varied diet, following nature's indications and taking no thought of what they should eat or what they should drink, and occupying the mind with other topics than those relating to their digestion.

Finally, let us learn a practical lesson from our observations of the class who

"live to eat"—the *gourmet* and the *gourmand*—they "who fare sumptuously every day." Dyspeptics are not common among this class. An overstimulated appetite may lead to other affections—such as gout, indigestion, fatty heart, etc.—but rarely to dyspepsia.

Let us learn another practical lesson from our observations of those who "eat to live"—the hard-working laborer or mechanic, who is satisfied with obtaining an ample supply of food, and who has no time to study, by his personal experience, the relations of diet to digestion. Our dyspeptic patients do not belong to this class.

Let us learn another lesson from our observations of the classes to which our dyspeptic patients do belong. They are, for the most part, lawyers, clergymen, doctors, students, teachers, artists, bankers, literary men, and men of leisure. Of those belonging to these classes, they become dyspeptics who study, from the best of motives, how to live, as regards diet, so that "digestion shall wait on appetite, and health on both." And for this end they endeavor to regulate diet by watchfulness, personal experience, theoretical notions, or, perhaps, scientific principles.

Let a fourth lesson be learned by observing the results of the dietetic treatment of dyspepsia, based on the conclusions to be drawn from previous lessons.

Modern Methods of Treating Pulmonary Phthisis, and What We Should Expect from Them.

Dr. BEVERLY ROBINSON publishes the following lecture in the *Medical Times*, Nov. 15th, 1884:

I now proceed to the subject of my lecture of to-day, which shall be mainly in regard to what I shall designate as "Modern Methods of Treating Pulmonary Phthisis, and what we should expect from them."

First, however, allow me to direct your attention for a few moments to the poor fellow who sits here. The man came to see me the other day, complaining chiefly of dysphagia and pain in his throat. The difficulty of deglutition does not exist to any very marked degree for liquids, but for solids it is extreme. Indeed, for more than six months he has swallowed little or no solid food, so that at present his appearance is that of excessive emaciation and weakness. His dysphagia is due, first, to the fact that the alimentary bolus in passing the larynx appears to go the wrong way, and the effort to swallow is followed immediately by a severe paroxysm of cough, and by rejection of food by mouth and nose. Occasionally, when food has evidently entered the larynx, he has nearly suffocated before he could free his respiratory tract from obstruction. But this is not all. The mere passage of solid food causes intense local pain, which he very much dreads, and from which he recovers slowly, and after a severe shock to his system. Upon examination of this patient's throat, I find that he has advanced ulcerative phthisical laryngitis. The epiglottis is half eaten away, and, but for the fact that he denies syphilitic disease, shows no signs of its existence, and has evident pulmonary phthisis at its second stage in the region of the left apex, I should almost be persuaded that he had tertiary syphilis of the larynx. Further, I would add that my patient says the pain in his larynx at night is so intense that it prevents him from sleeping. Can we help him, and in what way?

As a matter of fact, I find, gentlemen, he is greatly relieved from local pain by means of insufflations of a powder into his larynx of one part of tannin and two parts of iodoform; but I doubt very much whether these insufflations will do more than alleviate his sufferings for a time, unless we assist him to eat more nutritious food and in larger quantities. Here, if ever, there is a case for super-alimentation, and with the aid of the soft-rubber œsophageal tube (gavage). He should begin with a pint of milk, three raw eggs, and Reed & Carnick's beef peptonoids, in ounce doses, poured into his stomach twice or three times a day. So soon as his stomach will bear more at any one feeding, it should be given more. When I recommend beef peptonoids I do not recommend what is best, for the powdered meat of Favrot,* according to Millard, is, doubtless, superior. This preparation, therefore, if procurable, should first be asked for, and if it cannot be obtained, then the beef peptonoids may be substituted as the next best and most suitable form of meat and gluten that we can use. Of course, the employment of super-alimentation does not interdict the use of the powder locally, nor does it absolve us from the duty, so soon as we can, of employing all other means, medicinal and hygienic, to cure our patient if possible. But bear in mind one very important fact, gentlemen, and over and beyond all theories in regard to the parasitic cause of tubercular disease of the lungs or larynx, that in most of these cases we have abundant proof of malnutrition and wasting. Do whatever else you choose and can, but first give your patients sufficient food to more than neutralize all waste or inanition. Some of these patients eat fairly well, have a tolerable appetite, but do not take *enough*. Give them more abundantly. Sometimes they can be persuaded to take large quantities of food for a while—more than their appetite demands—but soon food taken in this way disgusts even the best disposed and most yielding patient, and he finally declines to submit further. Then is the time to advocate strongly the use of the œsophageal tube for purposes of alimentation. Explain to him that lack of appetite, or repugnance to food when swallowed voluntarily, is no proof that large quantities, if introduced mechanically, cannot be thoroughly digested and assimilated. Numerous facts prove the contrary. You have only to read the remarkable histories first recorded by Debove and Dujardin-Beaumetz, and since verified, corroborated, and amplified by Dr. Millard, of this city, to be assured that super-alimentation is possible in patients who have at first the most pronounced aversion for food.

Further, what results can we obtain if we persist in thus feeding phthisical patients? The most remarkable and satisfactory. Many cases, of undoubted authenticity, have been published already, in which advanced cases of pulmonary phthisis have been permanently cured, thanks to the super-alimentation, in this manner, continued without interruption during a series of months. Physical evidences even of softening at the apices have disappeared entirely, and all rational symptoms, such as hectic, night-sweats, elevated temperature, cough, dyspnoea, profuse expectoration, repeated hæmoptyses, have been completely suppressed for a period of time sufficient to guarantee complete recovery.

In addition to super-alimentation, I would urge the utility of continuous inhalation of dry vapors of certain volatile substances, such as creasote, carbolic

*This preparation has been imported by E. Fougere & Co., New York City.

acid, turpentine, iodine, eucalyptus, and benzoin. Since Curschmann, Roberts, Yeo, Pepper, and others have spoken favorably of these inhalations, I have made quite extensive use of them in both hospital and private practice. Judging by my own experience, I cannot believe that these inhalations are able by themselves to effect very considerable reparative changes in larynges or lungs already far advanced in phthisical lesions. I am quite confident, however, that they often lessen very much the frequency and intensity of cough, deodorize and diminish somewhat the quantity of sputa, and give considerable relief at times to painful sensations, both in the throat and chest, of such patients. I have shown you at a previous lecture the forms of inhalers I employ. The first kind is made of two perforated metal plates held together by a spring-catch, and between the plates a layer of oakum or absorbent cotton is placed, upon which a sufficient quantity of the volatile liquid is poured. They are held in place over the mouth by means of two elastic loops, which are passed around the ears. This form of inhaler is sold in this city by Mr. Ford, and was first introduced to the profession, I believe, by Dr. F. P. Kinnicutt. The other form, which I consider preferable, although much cheaper, was imported by me for use in the out-patient department of the New York Hospital. It is composed of a single piece of perforated light metal somewhat pyramidal in shape, and having attached at the apex of the pyramid a small piece of sponge, which, after moistening with water, should contain the volatile liquid. These inhalers can be worn during several hours each day without occasioning much annoyance, and with very decided relief to many distressing symptoms. They are unquestionably far superior to all other kinds of inhalers hitherto brought into use. They never give fresh attacks of cold, as I have frequently found with the warm-vapor inhalations was the case. They are very portable, readily put on and taken off, and their cost is moderate. The undiluted dry vapors, when inspired, probably reach as far down the respiratory tract as any atomized fluid from the numerous spray producers in the market, and appear to me in every way preferable to them.

This other patient whom you see is affected with pulmonary phthisis, which has reached the stage of softening at the left apex. He has no left laryngeal complication, and yet he has a most distressing and obstinate cough. To combat this symptom all ordinary means have been exhausted, and without giving even temporary relief. One week ago I injected ten minims of dilute Lugol's solution into the second left intercostal space, in a vertical line with the left nipple, and to the depth of one and one-half inches. The effect of this injection was to lessen his cough very much, and to make, as he states, his breathing somewhat easier. To-day I shall repeat this injection over the same region, and you will note the immediate result. It causes, as you perceive, but little pain, and, although the man coughs a few times immediately after the injection, and expectorates some thick, yellow phlegm, the sputa are not even tinged with blood. This is not always true, for in a few instances, after making similar injections, there has been slight hæmoptysis. I have thus far made about seventeen or eighteen of these intra-pulmonary injections, and with satisfactory results, so far as the cough and dyspnoea are concerned. The patients, in two or three instances, have affirmed that the quantity of sputa has also lessened. As yet, I have not followed up any one case long enough to know what definite results I shall obtain with respect to the pulmonary lesion itself.

In this country we owe this method to the personal initiative of the distinguished professor of practice at the University of Pennsylvania, Dr. William Pepper. In all, Dr. Pepper has performed more than two hundred intra-pulmonary injections, and has never had, so far as I know, one disastrous result. In fact, only on one occasion did he have a hemorrhage following the injection which appeared grave at the time. Even this hemorrhage seemed to be due to the suction caused by a considerable vacuum in the pump of Dieulafoy's aspirator. Dr. Pepper has given the first intercostal space as the proper place on the anterior chest-wall to make these injections. From my own investigations in the dead-house, I incline to the belief that the upper portion of the inner axillary region will be ultimately found to be the most direct way of reaching the cavities situated at the apices. To be frank, however, I should state that on two occasions, when I made injections at this spot, I had some bloody sputa follow the little operation.

What may we hope from intra-pulmonary injections? In my belief, they will disinfect the contents of the lung-cavities; they will modify and diminish the secretions from the walls of these cavities; they will tend to effect cicatrization and contraction of these spaces, usually filled with a material which is a constant source of peril to the patient. I have not been convinced of the advantage to the patient, when bearer of a phthisical cavity, of a free opening through the chest-wall and complete drainage of it. But this is a very different matter from the operation you have just seen, which may repeated again and again without risk or shock to the patient, and which promises well to the sufferer, if he has the faith to hold out until the good results are noticed.

I have endeavored in this lecture, gentlemen, to give you a slight *aperçu* of what I consider real advances in the treatment of pulmonary phthisis. We all know what treatment by the old methods means for the vast number of unfortunate beings who crowd our city dispensaries. With the three methods advocated by me before you this day—viz., super-alimentation, continuous dry inhalation, intra-pulmonary injections,—many patients will yet be saved, who, with cod-liver oil and the hypophosphites alone, or added to the other resources usually employed, would most certainly die. Nothing prevents us from using all previous means to help our phthisical sufferers, but I would also make a very urgent plea for the plan you have seen me practice before you.

Gouty Neurosis of the Heart.

DR. J. MILNER FOTHERGILL thus writes in the *Edinburgh Med. Jour.*, November, 1884:

There are no more troublesome forms of gout than gouty disturbances of the heart's action. All who have read Gairdner's treatise on gout are familiar with an obscure class of disorders which, however, often produce much alarm.

Gairdner wrote, amidst other sentences pregnant with information, "I have observed that the first sign of disturbed health which has attracted my attention and announced to me a tendency to gout, has been disorder of the heart's action. Its most common form is that of palpitation, fluttering, pause in the heart's action, intermission, or some indication of diminished tone or energy—in a word, impaired power of the organ."

This is an aspect of gout of which little is heard at the present time—withal a very important matter, often causing much alarm in persons whose lives may be termed, in more senses than one, "valuable," because occurring at a time of life when others are involved in the fate of the individual. As to why this aspect of gout is not much attended to at the present time, it is not easy to say. Possibly to some extent because Dr. Garrod says little on the subject in his well-known treatise on Gout. He does not pass the subject by, but he treats it curtly—as, indeed he does all the relations of gout to the nervous system. Admirable as his treatise is in every other respect, it is here that it fails to enlighten the practitioner—albeit it is just at this point the said practitioner often most needs light. It is no part of my intention in what is written here to attempt to disparage a very valuable book, but merely to point to a possible explanation as to why gouty disturbance of the heart is not much spoken about, or at least written about at the present time. Yet the disorders as well as the diseases of the nervous system are unmistakably on the increase at the present time, in the sane as well as the insane. There is, indeed, at the present time a tendency to nervous disturbances which, if not presenting to us actually new forms of disease, at least presents to us novel aspects of it; and, in so far, fresh morbid acquaintances. In so speaking, I trust I am no alarmist beating the sensational drum and starting pathological bugbears. Rather I am trying to put in a clear light, so far as I can be lucid on the subject, a class of obscure maladies, very often very puzzling to medical men of good general information, and very disturbing to the patient, and consequently needing explanation if that can be furnished.

These maladies here discussed are not of my own discovery, as the quotation from Dr. Gairdner's book amply demonstrates. But my line of practice frequently brings such cases under my notice. And I venture to believe that some reference to a few cases selected from my case-book may not be without value to your readers.

The person most liable to gouty neurosis of the heart is usually at or over middle age, and a parent. Consequently any disturbance of the health in such persons affects a family circle, and not the individual merely. Especially is this the case where the heart is affected. The well-known fact that heart disease is common in persons getting up in years, invests all cardiac disturbance with an interest which causes it to be anxiously scrutinized. Neuroses of the heart, unlike disease of the organ, attract the attention to the heart directly and immediately. It is the heart itself which is disturbed, while in disease it is more commonly some result of the impaired heart which forces itself upon the consciousness of the patient. The very fact that the patient complains of the heart puts one on guard at once as to the nature of the malady.

Gouty palpitation is very common, especially when the heart wall is dilated, which means that it is common with ladies at or after the menopause. Gouty angina is also common enough. Why is this? Because when the blood is laden with nitrogenized waste, disturbance of the vaso-motor system of nerves is very liable to follow. Spasm of the arterioles dams the blood in the great arteries, and thus increased resistance is offered to the ventricular contraction on the cardiac systole. Sometimes breast-pang is set up, or in other words *angina vaso-motoria*. Very much more common is what Prof. W. T. Gairdner has termed

angina sine dolore, or imperfect angina, not sufficiently pronounced to give rise to the characteristic agony, but presenting the other features of angina.

There may be palpitation of the heart, or there may be what Gairdner calls "diminished tone and energy." And this latter is the more alarming condition of the two. In either case there is apt to be high tension in the arteries, even when the heart seems faltering; and as a consequence of this high blood-pressure, a large quantity of urine is voided when the attack passes off. This increased bulk of urine has not, to my mind, been sufficiently appreciated, yet is of high diagnostic value in clearing up the vaso-motor element of the case when present. It is a matter which rarely escapes the patient's notice, however. Its absence or its presence is a great matter in guiding the diagnosis; and still more in giving direction to the line of treatment to be pursued. Where angina is vaso-motorial, the blood needs cleansing; where truly neuralgic, the treatment of neuralgia, viz., nerve tonics, is indicated.

At other times the disturbance of the heart is direct, and not the consequence of vaso-motor perturbation. It would seem as if there was some irritation set up in the inhibitory fibres in the vagus, and the heart's action is held back. Of course this effect is more pronounced where the heart wall is weak, either ill-nourished or fatally degenerated. In the latter case the attack is "syncopal" in character—just like syncope produced by other action on the inhibitory fibres of the vagus. Two patients are at present under care,—the one a gouty lady of rank, where the affection is so far linked with gout that she is distinctly gouty, and that she has improved on a line of treatment directed at the gout; the other a compositor, in whom there is no gout apparently, but who is liable to syncopal attacks, with rapid action of the heart, relieved by lying flat on his back, when the heart's action becomes normal. In both the result is the same as regards enfeebled action of the heart. Then there are other forms which present the character of intermittent action. The patient is a medical man holding an official position in India. He was seized with an intense feeling of terror once when out shooting, and shortly afterwards distinctly intermittent action of the heart showed itself. His own opinion was that it was gouty rather than malarial in origin, and after a second interview I came to the same conclusion, and an anti-gout treatment has been followed by satisfactory results, confirming this view.

This syncopal aspect of cardiac neuroses has been pronounced of late, so much so that I venture to state my belief that a new phase of disease is coming under our notice, or, at least, this phase is becoming more prevalent. Instead of being rare, it is now frequently met with. It is a state linked at times with overwork, and two of my patients thus afflicted are types of stalwart men, six feet high, and weighing about sixteen stone. In both there is a suspicion of gout to come. But so far their attacks are due to nervous exhaustion from long continued overwork. Their syncopal attacks are related to a common cause of syncope—stifling, crowded assemblages, while gouty syncope preserves no such relations. This constitutes an essential point of difference betwixt the two forms otherwise the phenomena are the same in the main, differing chiefly in the mode of causation. In one case, an Irish gentleman, there is interrupted and diminished action in the heart and tissues if quiet, while a brisk walk of thirty miles or so improves rather than depresses the heart's action. There is no suspicion of muscular

adynamy in the case, nor of any nervous exhaustion, but there is strong evidence of gout.

We see, then, that there are several and various affections of the heart linked with a gouty state, or lithiasis, or lithæmia, whichever term is preferred. Palpitation, or angina from vaso-motor disturbance and high arterial tension, are two of the gouty neuroses of the heart. Interrupted or intermittent action is another form, while impaired energy is a fourth form. The last is a very distressing form, giving the same sense of impending death as is found in the most marked attacks of breast-pang. For the recognition of any of these varieties it is necessary to be familiar with the general aspect of gouty individuals, without which the diagnosis is impossible—by which I mean not the malady, but its causal relations. Failure of the heart's action is a malady easy enough to recognize, but the cause of it may by no means be so readily apparent. In some cases the diagnosis is by no means easily made, as the following case will show :

G. W. H., a hard-working clergyman, 53 years of age, consulted a well-known medical baronet for a sense of oppression at the heart on going to bed, or on going out for a walk, with attacks of angina, the pain extending down the left arm, coming on frequently. A grave view was taken of the case, and the patient was sent abroad to rest from all work. He had also begun to feel languid and unequal to his work. Certainly such a case looked not unlike a failing heart from structural degeneration in the heart-wall. Ultimately he drifted to me, and though the case at first sight looked grave, the more it was looked at the less grave it appeared. After due deliberation, I gave it as my opinion that the case was one of suppressed gout affecting the heart. This was received with derision, kind and polite no doubt, and incredulity. He was put upon a suitable line of treatment. Three weeks later his wife wrote me as follows ; “ Your prediction as to my husband's gouty tendency has soon been realized, as he has a slight attack of unmistakable gout in right toe.” The result was such as Sir Charles Scudamore would have foretold, viz., as soon as the regular gout manifested itself, the irregular symptoms disappeared.

It is not merely the correct diagnosis in such cases which is desirable in itself; it is of paramount importance as directing the line of treatment to be pursued, and is of the more importance, as my personal experience testified that these maladies, like all irregular forms of gout, are on the increase at the present time. Indeed, for treatment, such diagnosis is invaluable; and I can here appropriately make a quotation from Dr. Cummings' presidential address at the Belfast meeting of the British Medical Association :—“ Indeed, in dealing with many cases of disease, our question is not, Where is it? but What is it? Is it gout, or syphilis, or malaria? and so on, as we are well assured that, if we have the key to the enigma, all the varied anatomical changes will become explicable, and, what is of far greater moment, will be found amenable to remedies.” And such is the case with the gouty neuroses of the heart.

The Home Treatment of Mental Disease.

Dr. EDWARD C. MANN thus writes in the *American Psychological Journal*, Oct. 1884.

The following case illustrates a large number of cases that can be treated an

cured promptly in their own homes, without the necessity of being carried to an insane asylum. A young gentleman, twenty-seven years of age, who had suffered for some months from neurasthenia, or nervous exhaustion, and who for some time had suffered from an overwrought condition of his nervous system, being sleepless and eating poorly, and who had been for a few days melancholy and depressed, was precipitated, by the heat which came on in New York during the first ten days of September of this year, into a condition of subacute mania. He was a broker by profession, and had inherited from his father, who had been an epileptic, a weakened if not actually diseased nervous system, which predisposed him to the acquisition of insanity or some neurosis, on the application of a slight exciting cause. We had treated and cured his sister of a similar attack two years before. In his early years he had been addicted to self-abuse, but not of late years. He was brought to my office, September 14th, unequivocally insane. His eyes were suffused, his head hot, his extremities cold; he had no appreciation of his condition and surroundings, and he had rapidly-changing delusions. Up to the tenth of September he had manifested no delirium, but had done everything in a confused, mechanical manner for the preceding week, and had dropped his horse's reins when out driving, while going rapidly. He could give me no account of himself whatever. I ordered him removed from his boarding house to his sister's residence, and there assumed the care of him. I ordered him hot baths, of the temperature of 98°, with cold to the head, daily at 4 p. m. Gave him, to quiet the delirium, sulphuric ether, ℥j and liq. opii. comp., gtt. xx, *pro re nata*, and Valentine's meat juice, with soft boiled eggs, milk and raw oysters, freely and often. One drachm of Warburg's tincture, in capsule, was ordered to be taken before breakfast, daily, and the following reconstructive sedative mixture was ordered to be given by the nurse at ten a. m., four p. m., and ten p. m., in doses of two teaspoonfuls, in water:

R. Sodii Bromidi,			
Ammonii Bromidi	āā	℥ss	
Pot. Bromidi		℥j	
Syr. Hypophosphites Comp.		℥ij	
Syr. Tolut.		℥j	
Aquæ Menth. Pip		℥jss	
Liq. Pot. Arsenit		℥j	M.
Dose, two teaspoonfuls thrice daily, in water.			

Under this treatment, with perfect rest in bed, quiet and a good nurse, I had the satisfaction of seeing this young man make a recovery to sanity in *ten days*. He is now in the country, where I sent him for rest and a bracing atmosphere, and gaining health and strength daily. I think this case illustrates a very important fact, namely: Persons whose friends become suddenly insane, being much alarmed, send for an asylum physician, who probably orders the patient sent to an asylum at once; and when there he cannot get that individual treatment, in most cases, which he needs, and so runs through the natural history of insanity. Prompt home treatment as soon as the *very first symptoms* are noticed by the friends, would do much to prevent hundreds of neurasthenic men and women from being sent to the asylum at all. Of course, if the case cannot be promptly treated and controlled at home, and if the delirium does not abate, then it becomes imperative to send the patient either to a private or public hospital;

and it is an unkindness to the patient himself not to take this course, as it is depriving him of the means of cure. If the general practitioners of medicine will only pay more attention to nervous and mental diseases, they can often cure their cases at home promptly. Take, for instance, a case of puerperal insanity, where a delicate woman becomes insane after confinement. This form of mental derangement owes its origin, I think, to the poisoning of the system by the absorption of the retained products of conception. If the general practitioner would give his patients a full purgative dose of hyd. chlor. mit., followed by salines, to eliminate this poison, and would then give ether and opium, as I have mentioned, to induce sleep (and rarely more than three doses are required in recent cases), and follow up this treatment with the mixture of the bromides and hypophosphites spoken of above, and at length in the *Philadelphia Medical Bulletin* for October, 1884, he will rarely have to send his patient to an asylum.

In delicate neurasthenic women with uterine complications, of whom I have many annually in my private hospital for nervous diseases, I rarely do more than prescribe a good nurse, perfect rest, a capsule of Warburg's tincture, fasting in the morning, and the reconstructive sedative of the bromides and hypophosphites together, and I see rapid cures by this method of treatment combined with massage and electricity. I do not treat every case alike, but study the individual therapeutical indications of each, and to that fact owe any success I may have in my treatment of such cases. There are some cases where the mental derangement can be traced directly to uterine irritation. This occurs particularly in young married women. With such cases an application to the os of an unguent of ext. belladonna (Allen's), \mathfrak{zj} and morphia \mathfrak{zj} , and of this a little pill rolled up and introduced every second day, will quiet the most intense mental excitement and hysteria, especially if combined with the following pill:

R. Zinc valerianat. \mathfrak{zj} .
 Ext. belladonna gr. iss. M.
 Div. in 30 pills, in capsule.
 Sig.—One capsule every two hours.

This simple treatment will save many a hysterical woman from an insane asylum, if promptly used. There is another form of mental excitement which occurs in women at the climacteric period, and which often runs into insanity, that consigns them to an asylum for years. I have checked this peculiar form of mania, which is characterized by suspicion, sleeplessness and refusal of food, by hot vaginal douches given by a trained nurse daily, and the following pill given every hour, or two hours, as the necessities of the case demand:

R. Pulv. camph. grs. vj
 Ext. hyoscyam grs. xiv
 Pulv. digitalis grs. iv
 Mucil. acaciæ q. s. M.
 Ft. pill No. 6.

The pill can be followed by the compound bromide mixture until the patient is well, together with that admirable nerve tonic, Warburg's tincture, in one drachm doses before breakfast. In all these cases, as soon as the patient is quiet, send him or her away from home and business cares, where there will be no mental worry or anxiety, into a clear, bracing atmosphere, for rest. It is a great

mistake to think that heredity prevents the cure of a case. It is not so. It is the early care of the case that generally decides its termination, unless it is one which has been coming on for a long time gradually. Such cases as I have mentioned may be cured promptly generally. Of course, there are exceptions to every rule; but care, thought and close attention to such cases, with the necessary knowledge and experience on the part of the professional adviser, ought to markedly diminish the admissions to asylums, particularly in the cases of young men and women who become insane. If it is a first attack in a young person a prompt, recovery ought to be made.

Diagnosis of Dilatation of the Stomach.

The *Jour. Am. Med. Ass.*, Nov. 22, 1884, says: In Vol. 3, No. 9, of this journal, we called attention to M. BOUCHARD's paper upon this disease, as presenting some novel points of interest. He, it will be remembered, diagnosticates ectasis of the stomach by the presence of the succussion sound below an imaginary line, connecting the umbilicus with the last rib of the left side. Dujardin-Beaumetz objected to this as unreliable.

It is interesting and instructive to see what other French and German authors regard as the chief diagnostic feature of this disease. Dr. Enrique de Arguez, in a recent monograph on "Adynamic Dilatation of the Stomach." (*The Medical Record*, Oct. 18, 1884) states that in typical cases he has observed a prominence of the epigastrium, and, more rarely, seen the peristaltic movements of the stomach through the abdominal parietes. Palpation generally yields the splashing sound, characteristic of the presence of gas and liquid in the organ; but the actual dimensions of the dilated stomach can only be determined by percussion. M. Germain Sée, who was on service in the Hôtel-Dieu where de Arguez observed his cases, considers the existence of ectasis of the stomach proved, if gastric resonance extends more than twelve or fifteen centimetres beyond the line of the left nipple, or if a succussion sound can be obtained six hours after eating.

Doubtless the most accurate method of determining the size of the stomach is by percussion, the low-pitched tympanitic resonance, elicited over the organ, being readily recognized when heard alone and unmixed. If the stomach contains liquid, or if the intestines be strongly distended with flatus, or if there exists enlargement of the liver or spleen, the characteristic gastric resonance is masked, and it becomes impossible to outline the organ. Moreover, the position of the patient's body is of influence, and hence a diagnosis should only be attempted in the dorsal *decubitus*. Even under the most favorable conditions, it may be doubted if a diagnosis by this means is possible, unless the degree of ectasis be considerable. Roughly speaking, the normal situation of the stomach is between the median line and left hypochondrium, and the area of gastric tympany extends but a hand's breadth to the left,—to the lower curving border of the ribs downward and outward—while according to Lichtenstern its upper boundary is on the sixth rib, just below the cardiac impulse, at the apex of the angle formed by the liver and lung. This point is where the stomach most nearly approaches the anterior wall of the trunk, and corresponds to its uppermost limit.

Lichtenstern was in the habit of percussing the abdomen by means of a pleximeter, and was thereby able to bring out a note of metallic quality, known in

German as "*Metallklang*." He even went so far as to state that in several instances, in consequence of rapid peristaltic contractions of the stomach, he has recognized a scale of metallic notes of different pitch. This, however, is a refinement of diagnostic skill beyond the attainment of most practitioners. As a rule the general practitioner of medicine will have to content himself with his ability to detect the extremest degrees of gastric dilatation. W. P. H. Wagner, who has investigated the boundaries of the organ in question by Frerich's method of distending it with carbonic acid, states that during such temporary dilatation the left border of the great curvature reaches close to the left anterior axillary line, while a portion (one-seventh) of the lesser curvature passes beyond the median line to the right, thus leaving six-sevenths lying toward the left hypochondrium. Gerhardt ("*Auscultation and Percussion*," Tübingen, 1876) considers the diagnosis of this condition in most cases a difficult task, but rendered quite certain if gastric resonance can be elicited below the umbilicus, and to the right of the median line. Valuable aids to diagnosis are epigastric bulging, visible peristalsis of the organ, succussion sound, dyspeptic symptoms, etc. Gerhardt also says the pressure of adjacent organs does not displace, but only alters the shape of the stomach. Hence, percussion, by detecting the characteristic note of the stomach at some point outside of its normal limits, ought to afford the surest means now at command of an accurate diagnosis. According to Dr. de Argæz, the diseases from which this condition of adynamic dilatation is to be differentiated, are gastralgia, gastric ulcer, chronic gastritis of alcoholism, fibrous stenosis of the pylorus, carcinoma. In many respects the symptoms are similar, but in all cases the distinction turns on the discovery of ectasis in the way already detailed.

Certain Nerve Symptoms in Rheumatic Affections.

Before the Clinical Society of London (October 10), Dr. W. H. HADDEN read a paper on this subject. The first case was one of glossy skin, following on an acute joint affection. The patient, a woman aged thirty-five, was under the care of Dr. Bristowe at St. Thomas's Hospital. A year before admission she was attacked with articular rheumatism which lasted for six months. She was jaundiced for six weeks after the attack. A month before admission she had rheumatic pains in the knees, back, and hands. On examination no swelling or tenderness of joints was found, but she complained of rheumatic pains in various parts. All the fingers of the right hand were extended, the fore and middle fingers were wasted and sensation a little impaired. She could only flex them very slightly, but could bend the ring and little fingers more readily. She could not separate the fingers of the right hand so well as those of the left. All the fingers of the right hand were wasted, smooth and shiny, and the nails were long and filbert-shaped. There was atrophy of the muscles of the forearm and of the thenar and hypothenar eminences. She rapidly recovered under the use of the continuous current.

The second case was that of a young woman, aged twenty-six, who had had swelling and tenderness of various joints, but chiefly of the right fingers, for a week before admission. She complained chiefly of two small round superficial sores, one on the extensor surface of the second joint of the right little finger, and the other on the extensor surface of the left middle finger, near the base of

the nail. They appeared about the time the joints became affected, were very tender, and itched a good deal. During the last six months the catamenia had become irregular, and this fact seems to support Dr. Ord's idea that there is a relation between menstrual disorders and joint affections.

The third case was that of a man aged fifty-seven, who was the subject of chronic rheumatoid arthritis of some months' standing. His face was curiously expressionless, and the whole body was held stiffly, with a marked forward inclination. The skin of both hands was smooth and shiny. The ends of the finger joints were much thickened, and there was extensive dislocation of joints. Both of the hands were flexed at the metacarpo-phalangeal joints, but the fingers were hyper-extended. There was slight affection of some of the larger joints. There was very extensive anæsthesia of both upper extremities. The prick of a pin was not felt over the front and back of the left leg and the dorsum of the left foot, but elsewhere in the lower limb there was no impairment of sensation. The interossei and extensors of both forearms were atrophied. They responded to the interrupted current, but less actively than normally. The left extensor communis digitorum gave the "reaction of degeneration." The skin and tendon reflexes were exaggerated everywhere, and there was double ankle clonus. The gait of the patient was spastic; an extension of the inflammation from the joints to the nerves might partially account for the various nerve disorders, but the author believed that it was more likely that there was an independent rheumatic neuritis. The nerve disorders were neither concerned with the causation of the gouty affection nor dependent on it. In the first two cases the trophic disorders occurring during the subsidence of the gouty affection seemed to be a relapse affecting the nerves.

The author referred to a case of anæsthesia in the course of the ulnar nerve, which he had observed in a patient convalescent from acute rheumatism. The muscular atrophy, affecting chiefly the extensors, seemed to be trophic. In shoulder-joint disease the wasting of the deltoid, and in hip disease the wasting of the glutei, supported the law that the extensors suffered more than the flexors. It was urged by some that this depends on some selective action of the spinal cord; but the cases of lead palsy and alcoholic paralysis, in which the disease is due to the peripheral nerves, render it possible that in joint affections a similar cause holds good. The occasional occurrence of rigidity and ankle clonus, perhaps, depends on affection of the spinal cord, although the author believes that such conditions are sometimes due to lesion of the peripheral nerves. The duration and intensity of the joint affection has nothing to do with the cause of these trophic disorders. The cases given neither support nor disprove the theory of articular rheumatism.

Sir Andrew Clark believed that in chronic rheumatism, osteoarthritis and chronic gout disorders of sensation and motion were very frequent; he had never seen the glossy skin in chronic rheumatism, but frequently in osteo-arthritis and chronic gout.

Dr. T. Barlow briefly related four cases which bore on the subject. The first case was one of acute rheumatism in a man aged forty; a severe attack of rheumatic fever was followed by hyperpyrexia, after which he was found to be affected with anæsthesia in the tract of the ulnar nerve, with some wasting of the interos-

seous muscles of the same side; these nervous conditions soon passed away. The second case was similar to the first, but the amount of wasting was more considerable, so that it looked like progressive muscular atrophy. The third case occurred in a very stout lady, who had an attack of rheumatism; here also the ulnar nerve suffered, and there was wasting of the interosseous muscles. The fourth instance was that of a boy aged fifteen, who was afebrile when first seen; there were signs of mitral obstruction and a history of previous rheumatism; here the nervous symptoms could only be explained by a lesion of the brachial plexus high up in the axilla, since anæsthesia and atrophy were so extensive and irregular in distribution. The degenerative reaction was obtained for a few days only, and the case finished by recovery. A rheumatic inflammation of the sheaths of the nerves was the probable explanation of the above cases, though in the first instance an injury might have played a part, since the man was so violent as to require the strait-jacket.

Dr. Long Hurst inquired whether any evidence of syphilis was present; this was answered in the negative.

Dr. Stephen Mackenzie said that many instances of arthritic inflammation were ascribed to rheumatism, but he could not disregard the possibility of the joint affection and the nervous lesion being due to disease of the spinal cord. He had seen a very remarkable case, which began as one of acute febrile disease, and was diagnosed as acute rheumatism; but when Dr. Mackenzie first saw the case, the character of the inflammation of the joints was not like that of acute rheumatism. Incontinence of urine and sacral bedsores appeared, and slight reaction of degeneration was detected in some muscles. The girl made a complete recovery, and there could be no doubt that the symptoms were due to an acute affection of the spinal cord. Chronic and degenerative changes were credited with the power of producing arthritic disease. A definite local lesion of the spinal cord was possibly present in these acute cases, without involving the theory that rheumatism was dependent on disorder of the spinal cord.

Mr. Hopkins narrated a case of absolute paraplegia, during the course of which both knee-joints and ankle-joints were inflamed; there was rapid wasting of the muscles. The patient recovered considerable power, but the joints remained stiff, and the muscles gave no reaction to the faradaic current.

Dr. Miller Ord referred to a paper read before the Society some years ago, in which he had pointed out the agency of the nervous system in the production of arthritic changes. Nodosities of the fingers brought about by uterine affections were possibly due to a reflex nervous influence. Many of the so-called rheumatic affections of joints might be explained by reflex trophic changes produced by the intermediate action of the spinal cord; or again, primary affection of the nervous centres might be the cause of trophic changes in the joints. Charcot had published cases of arthritis of slight, not painful, character, which were followed by atrophy of muscles excessive as compared with the joint lesions. In chronic rheumatoid arthritis the trophic changes might be referred to the intermediate action of the spinal cord. He thought there were many cases which observers were too apt to class as chronic rheumatoid arthritis, which probably owned a neural origin. It was important to recognize that inflammation of joint was common to many conditions.

Dr. Hadden, in reply, said that it was clear that some observers had met with anæsthesia in cases of rheumatism. He had seen trophic lesions in gout, such as unilateral sweating and glossy skin. No accidental pressure existed in any of the cases he had seen, and so he regarded Dr. Barlow's first case of anæsthesia as of rheumatic origin.

Gout and Eye Disease.

Mr. JONATHAN HUTCHINSON thus summarizes his lecture on "The relation of certain eye diseases to gout," in the *Brit. Med. Jour.*, Nov. 22, 1884: I must now bring my lecture to a close; and, in doing so, may, I think, venture to assume that it has been shown to be probable that there are many different forms of inflammation of the eye, or of parts of it, which are in connection with gout. Some of these are very peculiar and specialized types of disease, and have already been accorded distinctive clinical names; others, quite as distinct, are not as yet so well known, and of others we may say that they are to be distinguished from other inflammations of the same structures, not so much by their features, as by their cause. Of all, we may assert that they are unfrequent; some, if we confine ourselves to well marked types, are distinctly rare. We have divided these different affections into two groups: (1) those which go with acquired, humoral or renal gout; and (2) those which depend upon the inheritance of structures damaged, or at any rate specialized, by gout in predecessors. It is needless to repeat that, in almost all cases of acquired gout, there is inheritance also; and that in many in which the disease is chiefly caused by inheritance, some modification and increase may have been derived from personal habits. Still, the difference between the two classes of affections is very marked. In the one, attacks of a transitory nature are the rule, and these attacks are often acute, and attended by much pain. In the second group, although a tendency to temporary recovery and recurrence is often observed, yet there is a great proneness to chronicity and persistence. The invasion is often insidious, but the disease is usually in the end destructive. In the former group, we have placed hot eye, scleritis, recurrent iritis, and retinitis hæmorrhagica. All these are diseases of adult life. In the second group, we have insidious disorganizing iritis, relapsing cyclitis, certain forms of soft cataract, and, perhaps, some of primary optic neuritis. Not only are there clearly marked clinical differences between the two classes of affections, but the difference in treatment is equally marked. In the first, the well known measures against gout must be taken; a restricted regimen, alkalies, colchicum, and aconite, and liberal counter-irritation. In the second, we must use tonics; and although counter-irritants are here, also, often valuable, we cannot trust to any measure as really curative, short of complete change of climate.

The Proofs of Gout.—It may be, perhaps, convenient to say a few words as to the kind of evidence which justifies a diagnosis of gout as the cause of any particular disease of the eye. In the case of humoral or acquired gout, there ought to be the history of one or more definite attacks of joint-inflammation, usually of an acute character, and attended by redness and œdema, and followed by peeling; usually the great toe will have been the joint affected. Such patients will often state that they are very susceptible to the influence of beer and wine,

and that malt-liquor and some wines almost always cause indigestion, and make the urine muddy. These dietetic disturbances, to which, as a test of gout, attention was, I think, first claimed by Sir James Paget, are very important and valuable. If tophi be present in the ears or elsewhere, they are of course conclusive. In a few cases, we are justified in assuming the existence of humoral gout, although no paroxysm has ever occurred. If the dyspepsia be there, if the joints ache and prick after beer or wine, and if there be gout in relatives, we may confidently believe that it is present, although not yet declared. As regards the inherited form, we may take it as highly probable whenever parents or grandparents, or any one of them, are known to have suffered definitely. If even uncles, aunts, brothers or sisters, or cousins have suffered from true gout in early life, the belief that a family taint exists becomes very probable. The evidence must always be carefully sifted. It will not do to take the statement of the patient without first carefully informing him as to the scope of inquiry. Patients will often confess to gout who do not know what the word means, and a far more numerous class will hastily deny its history, although the facts when correctly obtained, may be most conclusive. If, however, proper care be taken, and the patient, after being instructed, be allowed time for consideration—above all, if the inquiry be repeated after an interval, or if several relatives be interrogated, then I believe that in most cases truthful data will be obtainable.

It may be inquired as to the value of certain affections which may be considered to belong both to rheumatism and gout, as symptoms of the latter. Permit me very briefly to avow my creed. I believe that the subjects of gonorrhœal rheumatism are, in a very large majority of instances, the inheritors of a gouty constitution, and that all the conditions usually classed as rheumatic gout are really, in most instances, dependent in a large degree upon like inheritance. Thus, if a patient have had sciatica or lumbago, if he show nodi digitorum (osseous, not tophi), if he have suffered from chronic rheumatism affecting the smaller joints, I should think it fair to allow considerable weight to these facts as pointing to a taint of gout. Even the strictly rheumatic disorders, acute rheumatism itself, if it happen to the relatives of those who have had gout, lend support to the theory of family tendency to gout. It is an observation as old as the days of Heberden, and confirmed I am sure by daily experience, that the children of the gouty are more liable than others to attacks of rheumatic fever. In this we see another proof of the inheritance of structural proclivities, rather, I think, than of blood-disorder or tendency to it.

Cases Illustrating the Value of the Bacillus-Search.

Dr. ARTHUR RANSOME reports these cases in *Brit. Med. Jour.*, Nov. 8, 1884:

Case I.—A boy, aged 8, seen with Dr. Mules, had suffered for several weeks from high temperature (101° to 103°) with wasting and shortness of breath. The upper lobe of the left lung was consolidated, and gave moist sounds on auscultation. The expectoration was abundant, muco-purulent. Both bases were clear. No bacilli were discovered in the sputum after careful search; and, although negative evidence on this point is of much less value than positive evidence, it was considered probable that the case was one of apical pneumonia, and not phthisis. This opinion was justified several weeks later by complete recovery.

Case II.—Also seen with Dr. Mules, was a man, aged 30, who had suffered from pleurisy, with effusion on the right side, for which aspiration had to be employed. He remained in bad health for several weeks afterwards, and his temperature continued high (100° to 102°). There was dullness at the right base, with moist crepitation, and the expectoration was muco-purulent and abundant. There was also slight dullness at both apices. It was difficult to say how far his condition was to be explained by the previous pleurisy until the sputum was examined, and found to contain abundant bacilli. He subsequently became insane, and died, a few months afterwards, of phthisis.

Case III.—A woman attending the Hospital for Consumption; Manchester, suffering from constant cough, abundant expectoration, and night-sweats, was rapidly emaciating. Although no physical signs of phthisis were discoverable, the sputum was examined; no bacilli were found, and a favorable prognosis was given. She afterwards recovered after several months' illness.

This case may serve as an example of several others of a similar character.

Case IV.—A gentleman residing at Alderley, had suffered from an occasional hæmoptysis for two years. He was rather thin, and had constant slight cough, but had not lost weight of late. There was slight dullness at the right apex, and harsh breathing; no moist sound. He had been pronounced free from tubercular disease by two eminent London physicians. An examination of some blood-stained sputum on his handkerchief gave several bacilli, and he was advised to winter in the Riviera.

Case V.—A married lady, aged 30, had suffered for three years from symptoms of phthisis, and it had become a question whether she might prudently winter at Davos. She had occasional hæmoptysis, and there were vomicae at the bases of both lungs; but her weight, under the use of iodoform, had increased during the last few months, and her expectoration had diminished. Examination of the sputum showed comparatively few bacilli. It was, therefore, considered probable that the disease had assumed a chronic form, and that she might go to the Engadine in September. When there, she had a sharp attack of rheumatic fever; but, in spite of this, I learned that she had gained weight, and that the lung-disease seemed to have made some improvement.

Case VI.—A youth, aged 17, had pneumonia at the base of the left lung, and afterwards pleurisy, ending in empyema. His family-history was unfavorable; but no physical signs of tubercle could be detected, and he had very little cough and expectoration. A small portion of rusty pneumonic sputum was secured, and a few bacilli were found. The empyema was treated by free incision, drainage, and antiseptic irrigation, etc., and the cavity is closing up; but he remains still in a precarious condition.

Case VII.—A girl, aged 15, was seized three months ago with enteric fever, the result of impure milk. After a lapse of three weeks, she had a second rigor, which ushered in a second attack of fever, with diarrhoea and rose-spots at the due interval. In rather more than three weeks from the commencement of her illness, the fever subsided for a week, and then began a third time. A third crop of rose-spots appeared a few days afterwards, and continued to show themselves for ten days. She had suffered from cough throughout the illness, and there was congestion of the left base. She was greatly emaciated; and, although the third

outbreak of the rash made it pretty certain that we had to do with the extraordinary occurrence of a second relapse into fever, it was thought desirable to discover whether the tubercular disease was also present. The sputum was, therefore, carefully examined; and, no bacilli being found, our anxiety on this score was relieved. The case is now convalescent.

Case VIII.—A farmer, aged 40, had pulmonary pneumonia, with effusion on the left side. After a month or two, the fluid diminished without aspiration, and he improved in general health; but there remained some dullness at the base of the lung. Four months after his first seizure, he began to lose weight, and was feverish, the evening temperature being 103° ; and had aphthæ in the throat and mouth. Being badly housed and badly nursed, he was persuaded to come into the Altringham Hospital. An exploratory aspiration was made, in search of any possible limited collection of pus, but without success. His sputum was then examined; and, although no bacilli were found, there was an abundance of a minute micrococcus, and it became evident that we had to do with destructive pneumonic suppuration. He died shortly afterwards.

Spasm of the Respiratory Muscles.

To the New York Clinical Society (Sept. 26, 1884), Dr. BEVERLEY ROBINSON presented a patient, a man twenty-four years old, a German, by occupation a driver, who had been admitted into Charity Hospital on the 16th. The patient stated that he had always been perfectly healthy, with the exception of his present trouble and two similar attacks, one of which occurred at the age of seven, and the other twelve months subsequently. His present attack began about two weeks before his entrance into the hospital, without assignable cause. It consisted essentially in the fact that about every six or eight seconds he inflated his lungs to their fullest capacity by a somewhat spasmodic involuntary effort. Upon the slightest emotional excitement the frequency and spasmodic character of the successive inspirations were notably increased. During the time they lasted, the patient's countenance became rather dusky in hue, with slight pallor over the cheeks, the eyes staring and prominent, the trunk bent forward, and the hands supported by the knees, so as to give additional power to the inspiratory effort. After several of these exaggerated inspirations, he complained of vertigo and asked beseechingly for a drink of water. Swallowing water afforded him some relief for a few seconds when his attacks were the most severe. The attacks were always more intense toward nightfall, and, unless he took a full dose of some antispasmodic mixture, he could not sleep at all, owing to his spasmodic breathing. The remedy, among many that had been tried, which had afforded him the greatest temporary relief, was a mixture of equal parts of compound spirit of ether and compound spirit of lavender. The urine had been found normal.

The actual cautery had been applied to the back of the neck, and he had been given large doses of chloral and atropine at different times, and continually during several days, with only partial benefit. Singular to say, sulphate of atropine had been given him to the amount of one seventh of a grain (?) three times a day, according to the statement of the house physician, without appreciable physiological effects. This statement, it was needless to say, Dr. Robinson ac-

cepted very doubtingly—he believed that there was an error somewhere, or else that the drug employed was of very inferior quality.

Dr. Robinson regarded this case as very interesting, and in his experience it was a unique instance of spasm of the inspiratory muscles. The determining cause of the present attack was difficult to establish. What seemed most probable was that over-fatigue during the summer, added to an attack of suppressed perspiration (although unobserved), had brought it on. He thought it probable that the use of galvanism would prove of benefit.

[*Note by Dr. Robinson, October 28, 1884.*—The patient has much improved, but is not yet entirely relieved. His permanent improvement is possibly due to the use of moderate doses of iodide of potassium. Time also has been a considerable factor in bringing about the amelioration.]

Dr. Robert Abbe thought the disease was hysterical in character, being analogous to hiccough, and suggested the employment of will-power to control it, as he had seen this successful in intractable cases of the trouble referred to.

The case was considered a unique one by the members present, no one having seen anything just like it before.

False Albuminuria.

Before the New York State Medical Association (November 18, 19 and 20, 1884). DR. CASPAR GRISWOLD read a paper on this subject:

This, he said, included two distinct classes of cases: (1) Those in which the urine does not contain albumen, but a precipitate resembling albumen is noticed under ordinary tests; and (2) those in which albumen is present in the urine, but does not come from the kidney. A small quantity of albumen in the urine was often of greater importance than a large amount, since there was no difficulty in those cases of Bright's disease in which there was marked albuminuria, which was usually accompanied with extensive dropsical effusion. It was of great moment, therefore, to decide whether a slight cloud discovered under careful testing was really albumen or not. In this paper Dr. Griswold said he would confine himself to the ordinary tests of heat and nitric acid; but it must be understood that the test-tubes employed should be absolutely clean, that the urine should be carefully filtered, and that the testing should be made in a suitable light, with the tube held against a black background. He then proceeded to speak of the substances in the urine which were likely to give precipitates resembling albumen, and the mode of detecting them.

(1) *Phosphates.* Here the heat-test and cold nitric acid test would answer.

(2) *Mucus.* This did not usually interfere with the examination for albumen; but there are two exceptions: (a) when the mucus was alkaline, and (b) when it was in such excess that a slight cloud of albumen could not be observed. In the first condition the cold nitric acid test would answer, and in the second the mucus could be removed by adding liquor potassæ and filtering, when the cold nitric acid test could be employed as before.

(3) *Uric acid.* In this case the urine was to be diluted.

(4) *Peptones.* True peptones was not precipitated, but hemipeptones were precipitated by cold nitric acid.

(5) *Resinous drugs, like copaiba.* Here alcohol could be used to dissolve the resinous precipitate.

When albumen was present in the urine, but did not come from the kidney, it was due to one of the following substances: (1) *Blood*. To be detected by the microscope. In some instances only albumen and coloring matter remained; the corpuscles no longer existing. Here the test for hæmoglobin was to be applied. (2) *Pus*. (3) *Prostatic or spermatic fluid*.

The Medical Treatment of Pulmonary Cavities.

In the *Bull. Gen. de Therapeutique*, Professor M. TRASTOUR, of Nantes, concludes an interesting clinical paper upon the medical treatment of vomicae in the lungs with the following practical deductions. Given a case, tuberculous or not, which has had and still has pus in the lung, the pleura, or mediastinum, which pus is evacuated through a vomica, and sometimes through thoracic fistulae,—a case in which there is no urgency, necessity, nor opportunity for thoracentesis, aspiration, or resection of the ribs,—what is the medical treatment to prescribe? This query he answers as follows: *First indication*. The suppuration can only cease if the walls of the pus-cavity retract sufficiently for cicatrization; for this it is required, on one hand, that the lung shall dilate, on the other, that the thoracic wall shall yield and become deformed. In some cases this deformity is very marked; and such depressions at one point or over one side of the chest are sometimes both striking and instructive, as noticed and figured by Laennec. The leaning to the effective side, the dropping of the shoulder, the diminution of the anterior and the posterior muscular layers of the thorax in the young, a tendency to lateral deviation of the spine, and prominence of the scapulae and sometimes the compensating fulness of the opposite side of the chest, were all noted by him also.

Chronic pleurisy, thoracic abscess, and tubercular cavities, may all produce deformities of the chest in subjects that are still young. The chest, said Laennec, must retire to make up all of that which the enfeebled lung is unable to furnish by dilating. The first indication of medical treatment of vomicae is, therefore, to favor the sinking of the chest-wall until cicatrization can occur, while diminishing as much as possible the inevitable deformity. To accomplish this, what will be necessary?

First, empty carefully the cavity, as completely and as frequently as possibly can be done. For this inversion has been practiced with good results. Prescribe and obtain the frequent practicing of deep inspirations, made methodically, in order that the lung may be made to expand.

Secondly, the disposition to the formation of pus must be combated; for which iodine preparations are recommended.

The third indication is to prevent emaciation by giving a liberal, easily-assimilated diet.

Fourthly, auto-infection must be guarded against by antiseptics and disinfectants. A glycerin spray, with or without carbolic acid, is very grateful to the patients.

Fifthly, revulsives are useful over the affected area of the lungs.

In the sixth place, and finally, he insists on the value of living in the country and of breathing pure air. He recommends to those suffering with empyema that they should breathe the air of the fields, or even, as an experiment, to try that of the sea-shore when a favorable opportunity presents.

Mesenteritis in a Patient Suffering from Lead Poisoning.

The *London Med. Record*, Nov. 15th, 1884, reports the following case:

A man, aged 54, had been working with lead-colors for eleven years. For many years he had been subject to abdominal pains, and for several months to very severe colic, accompanied by headache, constipation, and vomiting. He had the blue line on the gums, muscular atrophy of the limbs, and the abdomen retracted transversely in the epicolic and inferior limits of the epigastric regions; over the whole abdomen there was pain and great and anomalous resistance. In the last days of his life vomiting was constant, with constipation, and acute pain in the region of the stomach, œdema of the limbs, especially of the arms. At the *post mortem* examination were found perihepatitis and perisplenitis, with total adherence of the stomach, liver and spleen to the vault of the diaphragm, sclerosis of the whole great epiploön, chronic, sclerotic mesenteritis, with general retraction of the intestines, sclerosis of the solar plexus, chronic catarrh of the œsophagus, stomach and duodenum, brown atrophy of the liver, granular atrophy of the kidneys, pulmonary œdema, and cerebral anæmia. In this case, says the author, the process of poisoning having been slow, its chronicity had, it may be supposed, permitted the development of the unusual inflammatory alterations found in the abdomen, which again may be subordinated to the sclerotic state of the ganglionic nerves, which are known to preside over the innervation of those parts. Another similar case is related by the author, although not followed by necropsy. A painter, aged 30, many years before coming under observation, had been treated for colic and ascites. The attacks of colic continued, and were associated with pains in the joints and weakness of sight, which was ascribed to neuro-retinitis, probably saturnine in character. Physical examination showed this particularly; on pressing with the hand on one side of the abdomen, the right especially, the intestinal coils were seen to glide towards the opposite side, especially during profound inspiration, because of their greater inturgescence there. The author thinks that here also there had been a mesenteritis, which has the property of englobing the whole mass of intestine, and rendering it movable *in toto* under the pressure of the hand. The preceding ascites in this case might have been due to a peritonitic process, but especially to a mesenteritis, by compression of the veins of the mesenteric duplicature. The author says that, if his cases be not accidental merely, mesenteritis is a possible sequence of chronic lead-poisoning, and it might be possible to establish a relation between it and the attacks of colic.

Nervous Albuminuria.

The *Med. News*, Nov. 1, 1884, says: Under this title PROF. LASCHKEWITSCH, of Charcow, reports in the *Wiener Med. Wochenschr.*, August 30th, a case of albuminuria with general anasarca, most marked in the lower extremities and genitals, less in the abdominal and still less in the chest-walls, while œdema was altogether absent in the face. The albuminuria, which was large, was unaccompanied by any other symptoms of heart or renal disease, except the dropsy; but according to the patient's account, eight months previously there occurred impaired sensibility in the right arm, which gradually involved the whole right half of the body. Soon the dropsy supervened, first in the right arm, and extended

thence in the same order as the paralysis, first over the right side and then to the left. Perspiration was also much diminished, especially upon the right side. The temperature on the right side of the body was $.7^{\circ}$ to 1.2° F. lower than on the left. The twenty-four hours' quantity of urine was increased, being from 84 ounces to 100 ounces, sp. gr. 1007; the pulse was 84, and of good volume.

For these reasons Prof. Laschkewitsch prefers to regard the albuminuria and dropsy as angio-paralytic in their origin, due to some condition of the nerve centres. Such a conclusion is quite consistent with the results of the experiments of Bernard, who produced polyuria with albuminuria by irritating the floor of the fourth ventricle above the seat of the sugar puncture. Section of the spinal cord in rabbits below the seventh cervical vertebra is followed by a like result; and Prof. Laschkewitsch had himself the opportunity of observing the same effect follow injury to the spinal cord in man, by a pistol-ball which entered the spinal canal between the third and fourth dorsal vertebræ. So, too, section of vaso-motor nerves of the kidney by von Wittich, Ludwig, and Hermann, has been followed by effusion of blood into the kidney and by albuminuria.

It is not impossible that albuminuria from central nervous lesion may be more common than is generally supposed, and it is at least well to remember such possibility. Unfortunately the case of Prof. Laschkewitsch passed from under his observation, and there was no opportunity of verifying the diagnosis. It is not unusual in Bright's disease to find anasarca more marked on one-half of the body, but this is generally explainable on mechanical grounds, and we know of no better explanation in the instance quoted than that of the reporter.

Hæmoglobinuria.

A paper on the above subject was read by M. HENROT at the recent meeting of the French Association for the Advancement of Science, and gave rise to an interesting discussion. (*Progrès Médical*, Oct. 4th). Two cases were recorded in the paper. The first was that of a man aged thirty-two, with phthisical consolidation at one apex; he was also syphilitic. Occasionally, and as a rule after exposure to cold or muscular fatigue, he passed coffee-colored urine. Before the attack, which was always pyrexial, the urine was clear and free from albumen; after the attack it contained albumen, but no blood-corpuscles. At the end of two years the hæmoglobinuria disappeared, but the urine became albuminous, and the patient eventually died of tuberculosis. The second case was that of a man thirty-five years of age, who had had four attacks, during which he passed characteristic urine containing albumen after the attack; urobilin was found in this urine. M. Henrot suggested that the dissolution of the blood-corpuscles in these cases was due to the presence in the blood of biliary acids. As to the treatment of hæmoglobinuria, he raised the question whether inhalations of oxygen might not be of use by increasing the resisting power of the corpuscles. In the cachectic period, transfusion of blood might be resorted to. In reply to M. Maurel, he said that neither of the patients had shown any malarial symptoms; one had lived in Africa for some time. M. Hayem thought the rarity of icterus associated with hæmoglobinuria a forcible objection to M. Henrot's view. Another objection lay in the fact that for hæmoglobin to escape there should be a

large quantity of it in the serum. In some experiments he made on this subject, he attempted to set the hæmoglobin free by injecting water into the blood, and found that it was not until a quantity of water equivalent to one-half the mass of blood in the animal was so injected that hæmoglobinuria (and then only transitorily) occurred. Yet the serum of the blood in cases of hæmoglobinuria is barely more colored than normal, and the plasma contains about as much hæmoglobin as in health. Therefore, M. Hayem thinks, there is every probability that in this affection the hæmoglobin is altered, acting as if it were introduced from another species of animal, an experiment which immediately excites hæmoglobinuria.

Migraine and Tabes.

In the *Lancet*, October 18th, 1884, we read that amongst the various prodromata of tabes dorsalis, attention was drawn by Duchenne, and later by Pierret, to the occurrence of neuralgic seizures closely simulating hemicrania; and the recent brochure of Berger, to which we have previously referred, mentioned this fact as a novel observation. Dr. H. Oppenheim, of La Charité, Berlin, points out (*Berl. Klin. Wochenschr.*, 1884, No. 38,) the priority of the French authors, and supplies some interesting details of twelve cases, from a total of eighty-five tabetics, who either were at the time of observation or had previously been subject to migraine, ten of the patients being females. The study of these cases leads him to conclude that hemicrania is far too frequent a feature in the history of tabes dorsalis to be considered an accidental event, and that it is far more common among tabetic women—e. g., ten times in thirty-two cases—than among men. The relations which the hemicrania bears to tabes are various. Generally it has been present many years before the initial symptoms of tabes; and the hemicranial attacks increase in frequency, intensity, and duration as the disease advances. Or the migraine may coincide with the onset of declared tabetic symptoms, or be associated with vomiting and gastric crises. In rare cases the hemicrania does not appear until tabes is developed. On these grounds, Oppenheim thinks it the duty of the physician, especially in migraine of increasing severity, to be on the alert for the recognized early symptoms of tabes—especially the absence of knee-jerk.

The Treatment of Typhoid Fever.

At the meeting of the German Scientific Association at Magdeburg, a paper on the treatment of typhoid fever, based on an experience of seven and a half years—viz., from March, 1877, to September 1884—was contributed by Professor EBSTEIN. The total number of cases was 235, and they were treated in the medical clinic at Holstein. The mortality was only 5.5 per cent, reduced to 2.5 per cent. by the exclusion of inevitably fatal cases. The author concludes that the so-called "abortive treatment" with calomel is useful and to be recommended. In the absence of any causal treatment, this can only be symptomatic—i. e., measures based on a consideration of the morbid phenomena and individual conditions. Above all, attention must be paid to judicious dietetic treatment and the maintenance of the nutrition of the patient. The control of high temperatures, even if of long duration, is only called for when they are associated

with severe cardiac or nerve symptoms, or when the temperature attains such a height as to threaten life. The principles of treatment enunciated are, says Ebsstein, far more satisfactory in practice and in their results than an exclusive adoption of "bath treatment" or other methods of strict antipyresis. Baths he regards as of value for their powerful stimulant action, and he would employ them where other methods seem to be insufficient.

Purpura Hæmorrhagica—Death.

Dr. T. NUGENT GRIFFITH reports the following case in the *Brit. Med. Jour.*, November 1, 1884:

On August 12th, I had an order to visit M. E., an unmarried female aged 21, as a parish-patient. On arriving, I found her suffering from purpura hæmorrhagica, the petechiæ being well marked on the legs, but not on other parts. Menstruation had been always very irregular, and of late had not appeared at all; but bleeding from the nose used to occur frequently—every week, in fact. The patient was fairly well nourished, but complained of feeling generally weak and ill. The urine was not examined. She was treated with iron and quinine, and for some time appeared to go on satisfactorily; so much so that, after calling and finding her out, I ceased attending. On the morning of September 5th, a messenger came to me saying the patient was dying; and, on my arrival, I found her in a state of coma, insensible to all around. The mother told me she had had a fit of coughing about 4 o'clock the previous morning, and had vomited, there being traces of blood in the vomit. However, she seemed to be better during the day, and I was not sent for. The next morning, about 4:30, she had another attack of coughing, and vomited again. About two hours afterwards, she had a convulsion, and became comatose, in which state she remained, with occasional attacks of convulsions, till her death, which took place about 10 p. m., the same day. The termination of this case, according to Dr. Roberts, is rare; which is my excuse for reporting it.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Sulphate of Copper in Obstetric Practice.

The "*Paris Médical*" publishes the following conclusions of M. Charpentier: (1) A solution of sulphate of copper, one to one hundred, is a most valuable antiseptic, especially in connection with midwifery; (2) the moderate price, absolute innocuousness, and convenient form of this substance, are strong recommendations in its favor; (3) aside from its antiseptic properties, sulphate of copper is also a well-known astringent, so that it can be used as a substitute for persulphate of iron, over which it possesses the superior advantage of not retarding the healing of wounded surfaces. The solution may be used freely as an intra-uterine injection, without fear of unpleasant results; in fact, a rapid and steady recovery has followed its use in many cases of post-partum hyperpyrexia.

Permanganate of Potash in Puerperal Pyrexia.

In the *Brit. Med. Jour.*, November 15th, 1884, Mr. T. B. GREEN publishes a paper on the use of permanganate of potash in the treatment of some forms of puerperal pyrexia. He believes that, in most cases, warm vaginal injections of diluted Condyl's fluid, frequently repeated, are of great use, generally efficient in reducing temperature, and conducive to the speedy convalescence of the patient. He publishes notes of a case of puerperal scarlet fever of the anginous variety which was successfully treated by very frequent vaginal injections of warm and dilute Condyl's fluid, combined with the internal administration of one grain of permanganate of potash every two hours, stating that improvement began from the moment this treatment was adopted. The only cases of puerperal pyrexia which he has found benefited by the vaginal injections, were pelvic cellulitis and decomposing shreds, or clots, in the uterus; in the latter case, the injections, if carried up into the uterus, with precautions, proved effectual.

Ovarian Tumor in a Woman Ninety Years of Age.

Dr W. P. GIDDINGS reports this case in the *Boston M. and S. Jour.*, October 30, 1884:

Mrs. W., aged ninety years eight months, had been noticing an abdominal enlargement for nearly a year, which, increasing to an uncomfortable degree, she sought counsel of a physician, who diagnosticated ascites. I was called April 4th in consultation, to tap if it was thought advisable.

The most distressing feature of the case was a profuse and constant salivation, precluding nourishment and sleep. A careful examination revealed an ovarian

tumor, and tapping was advised, which I did on April 10th. The old lady, unusually bright and intelligent, related during the operation many interesting medical experiences in her life, and remarked upon the advancement in medical and surgical science since her early life. The fluid removed weighed sixteen pounds. On August 9th I tapped her the second time, removing fifteen pounds; and the day following, being her ninety-first anniversary, she received and entertained several callers. At this writing she is in excellent health, reads with as much interest the daily paper as any person in our city, and discusses the prospects of our presidential election with the interest of a politician.

This is the rarest case of ovarian growth that has ever come to my knowledge, though I assisted my friend Dr. Crooke, of Augusta, Me., in removing one from a lady seventy-three years of age, which weighed fifty-five pounds, and her recovery was as rapid and uninterrupted as any I have ever seen.

The Management of Criminal Abortion.

Dr. W. H. ROBB read a paper on this subject before the New York State Medical Association, wherein he said that the cases to which he wished to direct attention were those occurring before the fifth month of utero-gestation, and in the paper he discussed the best methods (1) to control hemorrhage; (2) to remove the entire ovum; (3) to avoid septicæmia; and (4) to restore the woman to health.

Dr. Van de Warker, of Syracuse, said that at or before the third month he had never seen any good effects from the use of ergot, whether administered hypodermically, as recommended by Dr. Robb in urgent cases of hemorrhage, or by the mouth. The reason why ergot was not of service, he believed, was because the uterus had not its machinery for contraction in working order at this time, as at a later period. Furthermore, he thought that erratic and irregular contractions were often excited by it; and hence he considered that it was a waste of time to give ergot.

The tampon, except as a temporary expedient when the physician was suddenly summoned at night, was never to be resorted to; and sponge-tents, in his opinion, were not required to dilate the cervix uteri. If chloroform were used in sufficient quantity to produce partial anæsthesia, there would be no difficulty in dilating with such an instrument as Ellinger's, and then introducing the finger. The blunt curette was of service in dislodging the remains of the ovum, and after this had been done it was often advisable to swab out the cavity of the uterus with tincture of chloride of iron.

Dr. R. H. SABIN, of Albany county, said he believed that the use of the tampon was attended with great danger, and related a case in which rupture of the uterus was produced by it.

Case of Androgynæ.

Dr. J. ALGERNON TEMPLE thus writes in the *Canada Lancet*, October, 1884: A few days ago a peculiar case of malformation of the genitals in a female, came under my notice.

Mrs. D., aged 23, married five months, consulted me for amenorrhœa. The build of the patient was decidedly masculine, her voice deep, and a considerable quantity of soft dark hair on her upper lip and side of her face. She told me

she had never menstruated, and that she experienced a considerable amount of sexual excitement during coitus. On making a vaginal examination, I found the canal not more than $1\frac{1}{2}$ inches in depth, mons veneris covered with hair. The clitoris was about one inch long, with a complete prepuce, and the meatus urinaris opened about $\frac{1}{4}$ inch below it. The mucous membrane lining the vaginal orifice was of a peculiar dark red, with complete absence of the labia minora. On either side of the mons, two almond-shaped bodies were to be felt, tender to the touch, easily moved about towards the external abdominal ring, with a round cord attached to their upper ends. These bodies, from their size and shape, resembled more the testicle than ovaries. Through this short vaginal canal I could not detect any uterine body, and on a careful examination per rectum, I satisfied myself that this body was absent. By bimanual examination I could meet my two hands. Firm pressure above the pubis, and the finger in the rectum, proved to me that no uterus existed, and retaining one finger in the rectum, and a sound in the bladder, I could bring them together easily, proving the non-existence of the uterus. This patient has been for some five or six years taking medicines for the purpose of bringing on menstruation, without having undergone any examination to determine the cause of the absence of this function. Complete absence of the uterus is not a common malformation.

Alcoholic Injections in Uterine Hemorrhage.

Dr. JAMES ROBINSON thus writes in the *Brit. Med. Jour.*, November 8, 1884: The following notes may be of interest as illustrating the value of alcoholic injections as a means of checking *post partum* flooding, as suggested by Mr. A. H. F. Cameron in the *British Medical Journal* of October 11th. On the night of October 14th, I was requested to see Mrs. H. I found she had been in labor about eighteen hours, was making little progress, and was extremely exhausted. After waiting a short time, delivery by forceps was accomplished without any difficulty. The placenta followed directly afterwards, and the uterus contracted firmly. I applied a pad and binder, and, after remaining in the house an hour, I left her. In about half an hour, I was hastily summoned, when I found her flooding in a most alarming manner; she was pulseless, delirious, and pallid. I immediately injected 15 minims of ergotine subcutaneously, passed my hand into the uterus, applied firm pressure externally, and cleared out a large amount of coagula. The uterus remained perfectly flaccid, and showed no disposition to contract. Firm pressure still being maintained upon the uterus, I injected cold water into its cavity, without the slightest effect upon the hemorrhage. I then injected about half a pint of raw whiskey, and immediately the hemorrhage entirely ceased. The uterus, however, remained flabby and quite uncontracted for half an hour, notwithstanding that firm pressure was kept up during the whole time. At the end of that period, it began slowly to contract, and soon became hard and firm. I then applied a pad and binder. On removing the diaper applied to the vulva immediately after the injection, which had been in position for three-quarters of an hour, I found it slightly wet with the whisky, but absolutely without a blood-stain. I now injected subcutaneously 15 minims of ergotine, and administered one drachm of liquor ergotæ ammoniatus (Woolley), with an ounce of brandy by the mouth. After remaining two hours, I left my patient perfectly

comfortable, and disposed to rest. Upon visiting her the morning following, I found her doing well in every respect. The hemorrhage had not returned, only the usual and normal amount after an ordinary labor being present. She continued to progress favorably, and is now almost convalescent.

Puff-Balls in Uterine Hemorrhage.

Dr. THOS. DUNCAN reports this case in the *Brit Med. Jour.*, Nov. 8th 1884: On the morning of June 19th, I was called to visit Mrs. F., aged 26, mother of three children, about two and a half miles from my residence. On my arrival, I found her quite bloodless-looking, bathed in cold perspiration, and complaining of headache and giddiness. I learned, on inquiry, that she had a miscarriage four weeks previously; and that, from that time until the present, hemorrhage from the womb had continued at intervals, but that, during the previous night, it had become alarming. On examination, *per vaginam*, I found the os uteri dilated, so as to admit the tip of my index-finger, the lips swollen and patulous. I ordered astringents (dilute sulphuric acid, with liquid extract of ergot, etc.) On my return, eight hours afterwards, I learned that the medicine had produced no effect. I then used astringent injections, and plugged the vagina; even this did not arrest the hemorrhage. The case was now looking very serious; nothing would remain on Mrs. F.'s stomach, not even cold water.

I remembered asking, at a meeting of the North of Ireland Branch of the Association, when the subject of the puff-ball (brought under the notice of the profession by Dr. Thompson, of Omagh) was mentioned, if any member had tried this remedy in cases of uterine hemorrhage, and received a negative reply. The present case was one in which I determined to try this styptic. I had a large puff-ball in store; this I divided into two equal parts, and, having turned the half I intended to use inside out, I tied some strong sewing-thread around it, having first saturated the thread in a weak solution of carbolic acid. I then introduced the puff-ball into the vagina, and, with a rectum-tube, passed it along the palmar surface of my left index-finger. My patient, in an exhausted state, was lying on her right side, so that I had to use my left hand. By this means I got the ball placed against the os; I next secured the thread to the thigh. From that time until my return next day, Mrs. F., had not lost as much blood as would stain a napkin. I then removed the puff-ball; but, fearing lest any return of the hemorrhage might occur—a thing not to be desired—I, in the same manner, introduced the other half-ball, leaving it there for twenty-four hours, with the same good effect. From this time my patient made a good recovery, and has menstruated regularly ever since.

A young medical man in the neighborhood to whom I mentioned the above case, has just informed me that, a few weeks ago, he had a similar case, in which he used the puff-ball with the same satisfactory results.

Masturbation in the Female.

The *Medical Bulletin*, Oct. 1884, contains the following remarks by Dr. WILLIAM GOODELL:

Masturbation is not so readily accomplished in the female as it is in the male. Many females who practice this vice never reach the orgasm. It seems as

though it were necessary that the whole vagina should be dilated and impinged upon, as in the natural act. I have taken a good deal of interest in the investigation of this matter, and I have seen a number of cases where masturbation was practiced without the orgasm being reached, there being produced simply excessive excitement, the masturbator being obliged to desist from sheer weariness. This will explain why it is that when masturbation is practiced by the female it is carried to a much greater extent than it is in the male. I had a female patient who masturbated as often as eight times in a day. There is no male that could stand such a drain on the system. It would end in excessive prostration, spinal trouble, or insanity. In that case, in spite of the use of the largest doses of bromide of potassium, which is a specific for this condition, if there is a specific, in spite of all moral persuasion that could be brought to bear, the practice was continued. I applied cantharidal collodion to the whole vulva, producing a really cruel condition, but still the practice was continued. Under such circumstances the habit is a disease.

What does masturbation in the female produce? It will cause intense congestion of the ovaries, and this will lead to the same condition in the annex of the ovaries, the womb, for the womb is really an annex of the ovaries. The womb is simply a pouch, while the ovaries are something more than that. This may lead to the production of an ectropion of the lining of the canal, and on two or three occasions I have found it very difficult to decide between this condition and laceration of the cervix. In two of these cases the hymen was present. On looking at the part, it closely simulated laceration, and the test with the tenacula failed to reveal the nature of the condition, for the tissues were so infiltrated and soft that they could be brought together, covering up the erosion. In these cases I am satisfied that masturbation was practiced.

What are the evidences of masturbation as revealed by an examination of the parts? In the first place, the clitoris is much elongated and the prepuce is hypertrophied and thrown into wrinkles. The nymphæ, which start from the clitoris and form the hood of the prepuce, from being rubbed become lengthened and thickened, and often there is more or less redness of the parts.

A Wonderful Monstrosity.

Dr. R. B. GRAMMAR reports this case in the *Texas Courier-Record of Medicine*, November, 1884:

I have the honor, through the courtesy of my friend, Dr. J. R. Adams, of this city, of reporting a wonderful monstrosity that occurred in his practice, which I think will be read with interest by the numerous subscribers of your valuable journal.

On October 12, 1884, the doctor was called to attend Mrs. A., in labor with her fourth pregnancy. On examination he found a breech presentation of the first position, according to Playfair's classification. Nothing unusual was noted except an absence of meconium on withdrawal of the index finger; and after delivery, which soon occurred, ankylosis of the hip joints. It was a female child at full term, weighed seven pounds, and breathed a few times.

The deformities consisted of a single eye with two pupils; an appendage of a nose immediately above the eye in the center of the forehead; the nasal bone

could be felt through the integument above the mouth where the nose should have been; mouth in natural situation; entire absence of tongue; the cerebellum was wanting, and a thick fold of integument supplied its place in giving shape and size to the head; cranial bones perfect, with the anterior and posterior fontanelles nearly closed; a depression of the ribs of the left side from the pressure of the knees during intra-uterine life; the right arm was longer than the left, the hand being supplied with two thumbs, with an absence of the ring finger; the left arm and hand were natural except an outward turn of the hand upon the forearm; ankylosis of the hip joints complete; flexed on thighs, which, with both legs, were normal; talipes varus of the right foot, and a calcaneo-valgus of the left; and, as intimated above, *an imperforate anus*. No examination was made of the viscera, as the specimen was preserved entire, and will be photographed.

The most peculiar and wonderful deformities were those of the face. The one eye situated between where the natural orbits should have been, a large and perfect globe, with two brilliant corneæ, the pupils elongated vertically like those of a cat. The nose, a teat-like appendage in the center of the forehead, an inch above the eye and an inch and a half in length, and larger at its extremity than at its pendulous attachment, with a single orifice not larger than a darning needle; and the oral cavity of a cartilaginous structure. Nature has made some wonderful freaks, and this is one of her most remarkable of human monstrosities.

It being the fourth pregnancy, the previous children perfectly formed and healthy, except one who had two thumbs upon one hand, natural labors at full terms, the mother of good development and healthy, aged 32 years, and of no consanguineous relation to the father, there were no maternal influences or impressions that could explain the deformity, except that on inquiry, I learned that about the time of conception she was convalescing from a severe attack of facial erysipelas.

Could this explain the existence of this wonderful monstrosity? or, was it simply a failure on the part of nature from impoverished or imperfect nutrition, or some inexplicable cause, to perfectly perform and complete her work?

A Case of Alexander's Operation of Shortening the Round Ligaments in a Case of Aggravated Prolapse and Retroflexion.

DR. GEORGE ELDER reports the following case in the *Brit. Med. Jour.*, November 15, 1884:

The patient upon whom this operation was performed, has been known to me since 1872 as an almost constant attendant at one or other of our local medical charities; and latterly, as spending most of her time either as an in-patient of one of these institutions, or at home, confined to bed.

Her history is briefly as follows: Prior to the age of 36 years, her health had always been good, and her ability to do her share of hard work impaired. Of this she had more than usually falls to the lot of working men's wives, as her husband's drinking habits compelled her to work enough for both.

Whilst lifting a heavy weight, she felt something in "her inside give way;" and, from that time till date of operation, her life had been spent as previously

mentioned. In addition to the ordinary discomforts arising from a heavy retro-flected and prolapsed uterus, aggravated by the effects of a badly ruptured perinæum, her most urgent complaint was one of incontinence of urine, amounting to constant dribbling when in the erect position. Her life was rendered miserable by this state of matters, and to remedy it many and varied forms of treatment were used.

For nine months at a stretch, she lay in bed in one of our hospitals; so that it cannot be said, at least in this instance, that whatever good the operation has done might fairly be attributed to the necessary lying in bed.

Hot-water injections, position, pessaries of all kinds, intra-uterine stems, medicated tampons, with the administration, internally, of appropriate remedies, were, singly and in combination, tried with little permanent good effect; and it was when almost despairing of anything short of extirpation of the peccant organ being of any service, that she came under my notice again last February. My attention had been drawn to Alexander's operation by reading a paper by Mr. Lediard, of Carlisle, and the case under notice seemed a crucial one to test it.

On March 15th I cut down upon both round ligaments, finding no difficulty in reaching and separating them from surrounding tissues, and, whilst the uterus was held in normal position, pulled them out fully an inch and a half. Held in this position, the upper part of the ligaments was sutured to both sides of the wound; and, to prevent the possibility of their slipping, the loose portions were made tight by placing under them pieces of a gum-elastic catheter. Suturing other parts of the wound, and dressing with iodoform and absorbent cotton-wool, finished the operation.

The after-progress of the case, whilst in the hospital, was satisfactory. On April 5th, the wounds were all but healed, and she would then have been dismissed but for trouble arising from internal hemorrhoids, which she was desirous of having removed. This I did, and she left for a convalescent home on May 16th.

On May 5th, the uterus was in good position, and braced up behind the symphysis.

From this date she got about in the ward, but, as a precautionary measure, a small ring-pessary was placed in position. Since her return from the convalescent home she has been engaged in all kinds of domestic work, completely relieved of her former sufferings.

On June 22d, I found the uterus normal in position, and distinctly diminished in size.

REMARKS.—There could not possibly be a better test-case than the one narrated; and, so far, the result has been almost better than might have been anticipated. By means of a simple operation, devoid of danger, Dr. Alexander has given the profession a new method of treating aggravated cases of prolapse and retroflexion, which I hope they will try; and if, as I hope, time confirms its worth, then it will be one of the most valued means at our disposal for combating a class of cases amongst the most disappointing in our practice.

Remarks on the Relation of Impotence to Sterility in Women.

Dr. L. S. OPPENHEIMER thus writes in the *Louisville Medical News*, Nov. 1, 1884: Impotence is here confined to an inability to completely perform the sexual act.

If this condition is congenital, we usually find the erectile tissues lax, flabby, and lacking blood. There is no sexual excitement, the sensations of coitus are more annoying than pleasurable, while the sexual orgasm of the uterus and the impression of a climax of voluptuousness normally accompanying the act are entirely absent.

It is sometimes, though not often, possible for one of these conditions to be present and pregnancy to supervene; but when all co-exist, even though the menses and generative apparatus appear normal, fecundation will probably not take place.

The sexual orgasm of the uterus referred to normally occurs at the height of sexual excitement, and consists of a number of rapid contractions and relaxations of the cervix, a clonic spasm in which the os opens and closes with a sort of suction movement, which lasts only for a few seconds, when all is again quiet. It is believed that this act of suction is a mechanico-physiological function, and results in drawing the seminal fluid into the uterine cavity.

The opposite extreme from utter impotence is equally effective in giving rise to barrenness. Courty says that excessive sexual excitement, an orgasm passing all limits, as is the case with some hysterics, can give rise to a veritable spasmodic or convulsive habit in the sexual organs, more particularly in the utero-ovarian apparatus, and thereby result in sterility. Barrenness in this instance probably depends upon the continuous activity of the uterine walls and the consequent inability of this organ to retain the male germ.

Many of the causes of sterility in the woman are very obscure. It is, therefore, not at all strange that congenital impotency, which is comparatively rare, should be usually overlooked or undervalued. Statistics, as a natural sequence, are almost entirely wanting in this field, notwithstanding the labors of Beigel, Rouband, and a few others in this direction.

This brief article intends merely to call attention to this as an important factor in the production of some cases of sterility, because very few of the writers on gynecology make any reference whatever to it. The diagnosis is usually made without any difficulty. A thorough investigation should invariably be demanded if the patient is to be treated rationally.

It is my intention here more especially to deal with the treatment of those cases in which no decided signs of disease exist, that is, purely functional impotence. In these cases much benefit may be expected from the use of good tonics, hot vaginal injections, aperients, moderate exercise, and electrization. So-called aphrodisiacal medicines will be found far inferior to these. It may appropriately be added here that the much-vaunted damiana has never had the slightest influence upon the cases in which the writer used it.

Faradization has given most gratifying results. It is of especial value where the menstrual flow is scanty, irregular, or entirely absent; if it be excessive, galvanization is preferable. The electricity is applied by means of an intra-uterine electrode, the sponge electrode being passed over the sacral, lumbar, iliac, and supra-pubic regions. Faradization of the vaginal walls is often beneficial. The sittings should take place two to three times a week, and last from fifteen to thirty minutes each.

The physician should in no case of sterility ever make a definite promise of a

cure. Nor is it always safe to promise a cure of simple functional impotence. It may, however, be safely said that three months' treatment of the latter is a sufficiently long time to decide the virtues of any single method of treatment. Much, of course, depends upon the size and condition of the utero-ovarian apparatus. The following case report is appended because it presents a typical illustration of the results of faradization alone:

Mrs. T., aged thirty-two, had been married four years, menses normal, health good. Lacked totally the sexual appetite, and intercourse was annoying. Had never been pregnant, but greatly desired offspring. Genital organs apparently normal except the uterus, which had a short, conical neck. Intra-uterine faradization was begun and continued for six weeks. The following menstrual period was passed without any show of blood. The lady confessed that the sexual appetite had suddenly appeared, and she had at once conceived. She was delivered at full term of a healthy male child weighing twelve and a half pounds. One and a half years later, failing to become pregnant a second time, the sexual desire having been entirely absent since the birth of the first child, she again applied for treatment. Faradization was again resorted to and continued for five weeks, when the sexual passion again returned. In about six weeks thereafter she conceived a second time, and was delivered a few months since of her second child.

Ringworm.

Dr. ROBERT J. LEE thus writes in the *Medical Press*, Nov. 12, 1884: A large number of cases of ringworm pass under our observation and treatment every year, and we are compelled to give some attention to the subject. This morning you have seen five cases, two in one family, two in another, and the fifth where the fungus is of very recent growth, only one spot on the right cheek having appeared.

Of late years ringworm has increased immensely among the children of the working classes, and has also been a source of trouble in many of the higher class schools, both public and private. As you will probably be required to advise some day upon the best method of its treatment, as well as upon the prevention of its extensions, I propose to give you as briefly as possible the results of my own observation and experience. Two of the children we have just seen, we were told, had already been for several weeks under medical treatment. Strong acetic acid had been used, and upon the heads of the children there were large areas almost denuded of hair, and in a state of inflammation. The ringworm was not cured, for in the centre of one of these areas, less inflamed than the others, we found abundant spores; that is to say, when we pulled out some of the young hairs and examined them with the microscope, we had no doubt of the presence of spores. Now the questions which lie at the root of the matter of the treatment of ringworm are clearly these. What is the nature of the fungus? What are the laws of its development, and under what circumstances is its growth favored or prevented? We must try to answer these questions before we can hope for much success in treatment, or be able to reconcile the various and rather conflicting reports of the value of different remedies.

The growth of the spores of the trichophyton is rapid. A single spore has been seen to pass through the stages of protrusion, elongation, division, and final

separation into independent spores, in the course of less than forty-eight hours. This has been observed in artificial cultivation of the spores in vitreous humour by Dr. George Thin, whose interesting and valuable results were published in the Proceedings of the Royal Society in 1881. It is probable that the stages succeed one another more rapidly in the human skin, if we may judge by the way in which a spot of ringworm extends from day to day, as for example in a case like that of the child who has one spot on her cheek.

There is no difficulty, on this account, in destroying the fungus, when we find it on the skin, by the application of any of the common sporicides. It is another matter, however, when the spores have made their way from the surface to the hair bulbs. They are then beyond the reach of destructive agents, and may resist treatment with great obstinacy.

It would appear from Dr. Thin's experiments that the spores of the trichophyton are influenced in their growth very easily indeed, and that they are most delicate and sensitive organisms, requiring special conditions for development.

You can understand why, in hospital practice, poor success attends the common method of treatment; for if an interval of a week is allowed to pass between each application of the sporicide, the fungus has clearly time to grow far more quickly than it is destroyed; and so we may continue for weeks or rather months, if the patient is not tired of coming, while we try one remedy after the other, perhaps with variable, though generally similar results.

You must leave the treatment of ringworm to the mother or the nurse, who can follow directions day by day, and apply the sporicide, at least, twice in the twenty-four hours. It is best, both in hospital and private practice, to reserve to yourself only the right of deciding when the cure is complete, and the child is no longer a source of danger to others.

The treatment can be carried out perfectly well by a person of the commonest intelligence, if the directions given by the medical adviser are carefully and regularly attended to.

You have seen, from the two cases before us, what objection may be made to the use of such agents as acetic acid. I have not seen any advantage obtained from the use of sporicides actively irritant of the cutaneous tissue, and producing such results from inflammation as we have seen these two children. On the head of the younger of them, an infant under two years of age, there are several inflamed areas, discharging serum and pus, and for the present nothing active can be done until the inflammation subsides. And so with many other agents, notably croton oil and chrysophanic acid, to which the same objections must be made.

The theory on which they are used is simply this. Seeing that the fungus does not grow when entirely immersed in a fluid, as was proved by the experiments of Dr. Thin, it seems probable that by exciting inflammation and the exudation of serum around the hair bulbs, the same effect would be produced as by immersion—that is to say, the fungus would be killed by excess of fluid. However reasonable this theory may be, we must check its application by clinical results; and as far as experience goes, I am bound to say that results are not very favorable to the theory.

Happily there are several sporicides quite sufficiently certain for all practical

purposes, which do not occasion active inflammation; and the question we have to consider is, not so much the special activity of any agent, as the special way in which it should be used.

Applications of the agent must be frequent in order to prevent the disease from extending, and we must try further to reach the hair bulbs by gentle and continuous friction. We also have to consider the circumstances of the family, and not inflict needless discomfort by using some malodorous combination which may make the suffering child a nuisance to every one it comes near. If a child is properly managed there is no great danger of contagion; and the treatment can be carried on with but little trouble or annoyance.

We must impress upon the parent, that if the child has long suffered from the ringworm, its cure will be a matter of time and trouble. And we must try and make the principles of our treatment understood. "What though more slow attained, with lesser risk and surer of its end." We must choose then a sporicide which can be applied frequently and continuously for several weeks without causing pain or exciting much inflammation. It seems to me better to avoid the use of the mercurial salts, as constitutional effects may possibly be produced, and preference is decidedly to be given to some one of the innocent substances belonging to the hydrocarbon group and obtained by distillation of wood or coal. Without comparing their relative value, I think that we cannot do better than use the best known of this class, and after extensive experience and most satisfactory results I can commend to you the following preparation as likely to be successful, even in the most obstinate case of ringworm. Let precipitated sulphur be mixed in a mortar with sweet oil, in the proportion of about half an ounce to the former to an ounce of the latter, so that a thick cream is obtained. Then add to this, mixing thoroughly, three drachms of Calvert's carbolic acid, No. 5 solution, that is a mixture containing the acid in about the proportion of 20 per cent. This must be applied twice a day, night and morning, to the affected parts, and should be rubbed gently in with the finger or a piece of soft leather.

If the child is brought to you to be examined once or twice a month, you will be able to report progress and decide when the treatment can be discontinued. The child's head should be well washed and brushed with soap and hot water two or three times a week, and if the disease has been of long duration it is well to begin by ordering the whole head to be shaved. It is also necessary to caution the patient against the use of the hat or bonnet that was worn before the treatment was begun. It sometimes happens that the question of the origin of the disease is difficult to discover, and there are two sources which might possibly be overlooked. When a nurse has been in a family where the children have suffered from ringworm, she may change her place and introduce it unknowingly into another family. The other source is more common than is generally supposed, and that is domestic animals; a strange cat or kitten may find its way into a house and carry the spores.

As we frequently observe that in the same family delicate children are more liable to contract ringworm than those that are strong and healthy, constitutional treatment should not be neglected. Your own observation and common sense will suggest all that is necessary and proper in this respect.

Some Cases of Abdominal Disease in Women.

The *Philadelphia Med. Times*, October 4th, 1884, contains the following lecture by Mr. LAWSON TAIT:

Professor Parvin introduced the lecturer in a few words, as one who needed no introduction to the most of those present.

Mr. Tait said:

I really do not know what Dr. Parvin has brought me here for, unless in his desire to show me attention he wishes to overwhelm me with kindness. I know that this is a tendency you have here, to overwhelm visitors with kindness, as it is sometimes in my own country. I have been told constantly since my arrival that I am in the country of big things; and now I find myself in the city of biggest things. I was, this morning, in the biggest store I ever saw, and to-day I ate the biggest oyster I ever ate in my life, and now I am in the biggest amphitheatre of any medical college anywhere. I know that we have nothing like it in England.

Now I am asked to do the biggest thing of all, and to lecture to you upon cases that I never saw until a few minutes ago, and examined only for about ten seconds each. Under these circumstances it is not unlikely that I may make some mistakes, and make a diagnosis which is incorrect; but if I do so I must ask you to pardon me, not because I am often given to making mistakes of this sort—I hope I am not—but because since I have been here I have been taken somewhat with the American disease, and am too much disposed to “hurry things.”

Before bringing the cases before you, let me say a word upon the diagnosis of abdominal affections. It has been said that the most difficult thing in the world is a diagnosis in the belly. I am in the habit of illustrating this in a familiar way, in this manner: Here is a table; it has a table-cloth on it. Now, I know that this is a table and table-cloth, but it is impossible for me to say what kind of wood is in the table until the cloth is removed. Just so it is with abdominal growths.

Now, it is just in this character of disorder that hurry is most likely to cause mistakes of a serious character. In no other department is a careful diagnosis more needed than in abdominal surgery; for you proceed immediately to perform an operation for its relief, and you are sure to be found out if you make a mistake.

A distinguished American physician told me the other day—and I shall not forget it—that a doctor may tell his patient that he has dullness here or râles there, and the patient moves off, and no one can tell whether he was right or not; but in abdominal surgery if we make a mistake we proceed to act at once upon the diagnosis by opening the abdomen. Therefore, on account of the obscurity of the case and the serious consequences of a mistake, you should act with the more caution in making up your opinion.

In proceeding to examine the patients brought before you, I will ask again, that you bear in mind the necessity of careful and thorough investigation of the cases, and that, in consequence of my lack of opportunity to do this, I may make some mistakes: if I do so, and, upon subsequent examination, Dr. Parvin finds reason to correct any diagnosis that I may make this afternoon, you must pardon it.

REMARKS ON OVARIAN TUMOR, AND EARLY OPERATIONS FOR ITS RELIEF.

The patient who has just been brought in is suffering with a disease which is a very common one with us, and also, I have no doubt, quite common with you: it is said to be a case of ovarian tumor by those who have had her under their care.

Upon exposing the prominent abdomen and inspecting its surface, the first thing that strikes my eye is the scar of a puncture near the navel and on a level with it, and a second one a little lower down. These are the marks of two tapings of the abdomen, which were not ordered by any one here. Upon this I will speak further in a few minutes.

You notice that there is a symmetrical uniformity about this abdomen. Now, whenever you see a symmetrical enlargement of the abdomen, you should suspect that is not due to an ovarian tumor. It is likely to be one of three things: (1) pregnancy, which you must always eliminate: (2) a small tumor, or malignant growth in the abdomen, accompanied by effusion of ascitic fluid; and (3) a parovarian tumor.

Let me give you a word of caution just here: when you are dealing with the abdomen for purposes of diagnosis, you can never be too delicate with your manipulations. If you handle the patient too roughly, you will frighten her, she will contract her muscles, and you will not learn a great many things which it is advisable that you should learn. If you handle patients roughly in operations, there is also danger that you may do them some harm.

I have now learned, by passing my hands over the abdomen in this case, several things. In the first place, the case is not one of pregnancy, although of this I had satisfied myself before; secondly, it is not a parovarian tumor; and I have also learned that, in the third place, it is probably a small growth with a large ascitic effusion. Just at this place in the lower portion of the abdomen there is a small solid mass, and there is a larger one in the upper part which is not solid.

Now, my task shall be to find out what relation there is, if any, between the two masses. Here, in the epigastric region, I get a tympanitic, an intestinal note upon percussion, and also a wave of fluctuation; low down it is dull. This was very useful to the man who tapped her, and upon it he probably based his diagnosis, and it would have given us considerably more information if the case had not been tapped; but now I am unable to say which of two conditions that may be present is before us, although it is important to know this, for upon it depends the advice we will give in the case. This softer portion may be an ovarian cyst which has partially collapsed after being emptied by tapping, or it may be an abdominal effusion. If it is the former, and an ordinary multi-cystic tumor, the treatment is perfectly easy and the result will be favorable; if, on the contrary, it is a small tumor surrounded by a large quantity of ascitic fluid, the state of the case is very much altered, and there are several things to be considered. I have found in the pelvis a small tumor over to the left, which may be the ovary in a state of incipient cystoma; it may be a papilloma, or it may be a malignant proliferation from some of the viscera. It is important to find out which of these it is. Now that we have fluid in the abdomen, it is impossible to come to a very definite conclusion; but could we have seen the patient before she was tapped, the relations of the intestines and the fluid would have aided the diagnosis. The growth may be from a cyst of the ovary, but I think myself that

the fluid was not removed from a cyst—that it was ascitic; and it is probable that this tumor here is a papilloma. So far as I read the history, I think that the second is rather more likely.

Under these circumstances, what are you to do for such a patient? The first thing to do is to open the abdomen in either case. My experience teaches me that it is a surgical crime to allow a patient to go to her grave without an operation, where it offers a possibility of relief.

This leads me to speak of the condition of papilloma, which is generally regarded as most unfavorable. Now, on account of reasons which to you are evident, it is possible to speak more freely in the patient's absence than in her presence; and she will, therefore, be removed. I said that I would return to the subject of tapping. It is not at all an innocent operation, though it is not considered a misdeed to tap by many physicians. In my own country the practice of tapping still prevails, and, possibly, in this country—so I have not too much to say when a case is brought to me for operation after it has been tapped; but in my opinion there are very few cases in which it is justifiable to tap a patient; the only exception I would make would be a malignant disease. Let me say with regard to the effects of tapping upon the subsequent mortality after operation, that I have not lost a case after ovariectomy for several years, except those which had been previously tapped. It is perfectly positive that the greatest danger in a case does not come from adhesions, or such complications, but from tapping. No matter how difficult the case was, if it had not been tapped it did well. I think that the explanation is a chemical one. The fluids in the interior of cysts are very rich in some complex kinds of albumen. I have made very many examinations of these fluids, testing them after various methods, and have come to the conclusion that no two kinds of cysts have fluids exactly alike. But all the cases I have lost were cases which had been previously tapped. I think that the reason for this lies in the physiological fact that the removal of this albuminous fluid renders the blood more coagulable. After the operation, the clot which forms in the pedicle runs backward in the vessels, and causes death from cardiac thrombosis.

My experience, therefore, makes me say that there should be no tapping. When a patient with an abdominal growth, ovarian or not, comes into the hands of a physician, his duty is either to remove the tumor without delay, if his experience and aptitude for operating are sufficient to undertake the case himself, or, if not, to hand it over to the care of one of his colleagues who has the skill and ability, for the credit of abdominal surgery which both of them represent and desire to honor.

To return to our case: this patient has been tapped, and my impression is that the fluid was ascitic. The position of the punctures is above the line of the ordinary place for tapping ovarian cysts; the surgeon who did this tapping probably felt this comparatively solid tumor at the base, and believed himself more likely to reach fluid at this point than lower down, at the point of election. This, of course, is based upon the supposition that you are accustomed to follow the same rule that surgeons at home are, of tapping usually about half-way between the umbilicus and the pubes.

With regard to tapping, I rarely find myself called upon to perform tapping

in preference to ovariectomy. I do not find the objection on the part of patients to operating that existed ten or twenty years ago, but I have not had a patient for the last five or six years who urged such objection or refused operation. When you can say positively, as you now may, that ninety-six per cent. of such operations should get well, you are not likely to meet with refusal. But, you may say, are there not cases which have been tapped many times without apparent injury?

I remember that I saw in the country of Hantz a tombstone that bore an inscription declaring that the deceased had been tapped for ovarian dropsy forty-seven times. Being on a tombstone, of course it must be true: if so, this is the largest number of such tapplings on record. My reply is that these large cysts are generally not ovarian, but parovarian cysts; they are filled with a fluid of low density which contains almost no albumen, and very little salts. Now, it is easy to conceive that in a single large cyst with a fluid that does not contain much albumen, the tumor may be tapped many times without weakening the patient very much; but in an ovarian cyst filled with albuminous fluid the result would be very different. This fact, then, would be no argument in favor of a change in treatment and a return to the practice of tapping ovarian cysts, a practice which is now less frequent in England than it used to be, chiefly through the efforts of my friend Dr. Bantock and myself.

An early operation is advisable. The patient is not subjected to the physical labor of carrying about a large growth, she is less likely to have papilloma, and finally, if a young woman, she will be glad to be relieved of the annoyance, if not more, of exciting observation by her large abdomen. The surgeon will find an early operation desirable, because the tumor is small and more easily removed; he will be less likely to find adhesions, the operation will be more readily done, there are fewer chances of having recurrent attacks of inflammation or peritonitis afterwards, and, finally, the danger from early operations is almost *nil*. I have little hesitation in saying that, in a series of early operations, where there had been no tapping, the mortality would not be over one per cent. If you should hear the contrary opinion in regard to tapping from what I have just given you, you will find generally that it is by a white-haired man, while you will hear the opinion that I have expressed from those whose hair is brown or just on the turn; that is, the young men advocate this view, the older men condemn it. I do not mean to imply that young men are always right and that old men must be wrong. There is a proverb, "Young men think old men fools, but old men know that young men are fools." I mean simply to teach that science is constantly progressing from age to age, and that each age is something in advance of that which preceded it.

Perhaps I ought to say one word about this case in conclusion. Suppose that I believed that this patient was suffering from papilloma—the disease we so much dreaded after opening the abdomen—developing around a tumor: I would still proceed to remove the tumor, even if I were certain that papilloma were present. And my reason for this is a very curious one. I cannot pretend to explain it, but the occurrence is one of which I am quite certain. I cannot say without my figures before me just how many times I have met with this condition, but it is certainly a hundred times. In operations especially, and in large proportion in ovarian tumors, also in cysts of the parovarium and in myoma,

and sometimes when there was no tumor at all, when I opened the abdomen for exploratory purposes, without knowing what I would find, have I encountered this curious velvety condition of the peritoneum which I recognized as papilloma. I remember a case seen by Mr. Pemberton, my colleague at Birmingham. The patient, a young lady, had an enormously enlarged abdomen, due to ascites, a fact I had recognized. I opened it by incision, as my practice is to make a small incision for exploration and drainage; by this means the fluid is evacuated just as well as with the trocar; but you cannot feel anything with a trocar, but with a clean cut of two or three inches you can introduce one or two fingers, and find out the actual condition of the pelvic organs as you can in no other way. I may add that I always make the exploratory incision for the removal of fluid, and find that it readily heals. Now, in this case of which I am speaking, I opened the abdomen and I found the peritoneum universally covered with papilloma. I simply put in a drainage-tube and cured the patient. It is now four years since this was done, and the patient remains entirely well.

I recall another case which I operated upon several years ago. Papilloma was present, and I was obliged to leave two masses in the abdomen. She is now about sixty-five years of age, the tumors have entirely disappeared, and she is perfectly well.

I have, therefore, concluded that there are two kinds of papilloma, malignant and non-malignant: one kills the patient in a few weeks or months, and from the other the patient will recover after an operation. I have carefully taken specimens from each and subjected them to microscopical examination, and competent experts could find no difference whatever. The non-malignant cannot be distinguished from the other. There is no question but that there are certain cases, however, in which it is malignant, nor that in others it is perfectly curable. So that, even if I knew this to be a case of papilloma, I would open the abdomen, and if possible, remove it, for it is possible that by the removal of the tumor I may cure the patient.

I said, "if possible," to remove the tumor. This reminds me that, after opening the abdomen, you must (let me use an American word here) "prospect" a little, and make up your mind fully what you shall do. The most fatal operations are those which have been abandoned after removal of a portion of the growth. If you remove part of the tumor and feel tired, and feel like closing the abdomen, remember that you are exposing your patient to a condition the mortality of which is about sixty per cent., but, if you have the courage to finish the operation, you may cure your patient.

In these cases, of course, skill in manipulation is necessary, and this will come by experience. If your experience and courage are not equal to the operation, place your patient in other hands, and the result will be a better one for your reputation and for the patient.

REMARKS UPON EXPLORATORY LAPAROTOMY AND REMOVAL OF THE UTERINE APPENDAGES.

The next case is one which involves considerable difficulty in diagnosis, and requires a knowledge of the past history of the patient in order properly to decide the question of treatment. This knowledge I have only very imperfectly obtained from my few moments' conversation with her, but I will take it for

granted that the young girl's sufferings are real and intense as she states, and that everything has been done for her relief that could be done by medical means. Now, I might supplement this by giving you an account of a similar case which I operated upon the other day in the State of New York, where the history was better known to me than this one is, or I might cite some cases under my own care at home, which were treated by removal of the diseased uterine appendages; but I will not take up your time with such accounts, because I wish to discuss with you a few points in relation to the operation itself, as compared with other means of treatment.

She is a young girl, 21 years of age, and has a pronounced crop of acne upon her face. When a woman comes into my consultation-room with a crop of acne, I always ask for a copy of the prescription that she has been taking, and I expect to find that it is bromide of potassium, which is the fashionable drug in the practice of some physicians for all the ills that women suffer from. I never met with anybody who could swear that he cured any woman with it, but it is a convenient pump-handle and appears to be diligently worked.

I usually am told, in answer to my questions as to previous treatment in these cases, "Oh, yes; I have taken lots of bromides. I went to Dr. A., Dr. B., Dr. C., Dr. D., Dr. E., and Dr. F., and Dr. A. gave me bromide of potassium, Dr. B. gave me bromide of sodium, Dr. C. gave me bromide of ammonium," and so on. The latest that I heard of was bromide of nickel. Finally, she stumbles upon Dr. F., who puts in a pessary; for what, goodness knows—but he finds her ailing, and puts in a pessary, and the chances are that it does harm instead of good.

I removed a pair of Fallopian tubes crammed full of pus, just before I left England, from a woman who had spent eighteen months, not in "riotous living," but in going round through a course of doctors. Another patient had a tray-full of pessaries, of various shapes and sizes. She would exhibit them as curiosities. "This one," she would say, taking one up in her fingers, "was inserted by Dr. A., and I wore it a week; Dr. B. introduced this one, and I could only wear it a few days; and this one must have been invented by the devil himself, for I could not wear it at all."

To return to our supposed case; she finally leaves the pessary-doctors, and the bromides, and goes to another, who dilates and splits the cervix uteri. So she goes from one quack to another, until she comes under the care of a surgeon who will operate and relieve her. I do not mean to declare that all women suffering with menstrual disorders require operation; by no means; although I have been misrepresented as saying this, I have never said it. But I mean to say that a large number of cases of these suffering women demand and require relief by operation; and of this class I believe that our patient here is one.

Now, if a woman with a history of wandering about for a considerable period among different physicians, seeking relief from menstrual disorders and finding none, who has used various contrivances without benefit, and taken many drugs, almost to the destruction of her health, comes to you, and you are persuaded from the account she gives of herself that her sufferings are real and not imaginary, you are justified in making a small incision in the abdomen and in putting your fingers down into the pelvis to find out if you can relieve her.

I have been accused of abusing this operation, but I think unjustly. Every

new operation is liable to be abused, but increasing experience soon teaches the proper limits.

I said that before operating you should be satisfied that the patient's sufferings are real and not imaginary. How can we ascertain if the patient's sufferings are real? Now, in my experience, I have always found that if, after putting the operation conscientiously and fully before the patient, she consents to undergo it, I have never operated without finding something the matter that would warrant the operation. You may say that this is placing too much responsibility upon the patient; but is it not what we have to do in other departments of surgery? A man comes with a chronic disease of the knee requiring operation,—amputation or excision. The surgeon explains the risks and advantages of each operation to the patient, and recommends one or the other, but the patient must take the responsibility of deciding. I always explain the operation carefully, and say that I will consult with her medical attendant or any number of them that she wishes, but the result of the consultation must be laid before the patient, and she must take a large share of the responsibility in the decision.

There are persons who have declared that this operation is done for low and immoral purposes. The first reply to this is that the operation is always done in such a public way as to refute any such charge. It cannot be done without being known: there are always nurses in attendance, who would tell of it, and it could not be kept secret. It is true, I have been approached by women who did not wish to bear any children; but we have some conscience left, and those who perform this operation are not to be considered as having less scruples than other surgeons. Moreover, as I have just said, the operation is a semi-public one, and it would soon be known if it were done with such motives. So far as I know, it has never been openly and directly charged upon any one in England that an operation of this kind was done for immoral purposes.

It has also been said that the operation is done sometimes for another immoral purpose—simply on account of the fee. But if this is brought to me, it might raise the same question with regard to the others who give bromides, put in pessaries, or divide the cervix. I think that the balance of the argument is in my favor: at all events, I have thrown down the gauntlet in England, and no one has yet taken it up.

Now, to return to this young girl. She is obliged to work for her living. Circumstances are very much against a patient who must earn her own living, as compared with one in comfortable circumstances in her own home. Luxury is much in favor of relief from ovarian disorders. A woman who can rest during her painful menstrual period is better situated for recovery than one who is obliged to work for one week in every month while suffering, and the latter requires relief by operation more decidedly than the former.

When a woman like this comes before you, who is compelled to work in order to live, and for one week in the month is incapacitated from working, you may be certain that stopping menstruation will give her relief; and you can do so just as truly as, in another patient whose eyes only see at twenty feet, you may by proper glasses enable him to see at a normal distance.

In this case, I have no doubt, if I could examine her, I would find her Fallopian tubes in a state of inflammation; but, even if they were found to be per-

fectly healthy, it would be better to remove them and stop this terrible suffering at each menstrual period.

About the consequences of the operation let me speak a word. I recall that a certain eminent ecclesiastic opposed the practice of vaccination and publicly stated in a sermon that dreadful things, such as a cloven hoof, and horns upon the head, would be caused by it. Now, it appears that we are treated in much the same way about this operation. We are told that the patients will get masculine, and that there will be an overgrowth of fatty tissue, and various other imaginary results. I am reminded, when I hear this, of the German professor who evolved a camel from his inner consciousness. It is well known, from the practice in Eastern countries of removing the testicles in men and ovaries from women, that, if the operation be done before puberty, the patient will retain to some extent the infantile type: the hair does not develop upon the face, nor does the voice change in men; but these consequences do not occur when the operation is performed after adult age has been reached. I have removed the ovaries in many cases and for various diseases, and I have never seen any of these asserted bad results, and no changes in the condition of the individual except for the better.

These ridiculous exaggerations I have referred to you will find in the first edition of Spencer Wells, and to my surprise I found them still more marked in the second edition; they are without any foundation in fact whatever. On the contrary, in the great majority of cases there is immediate relief from the sufferings and from loss of blood. Perhaps entire relief may be delayed for several months, and in some cases it may not come at all; but, I ask you, is this a valid argument against the operation? The operation for cataract sometimes fails; there is suppuration of the globe, irido-cyclitis, or other accidents which may lead to failure; and I might bring examples from other departments of surgery that would also illustrate this point. In fact, the operation of ovariectomy for the relief of pain and hemorrhage gives good results in comparison with other operations.

It is true that woman may have some inconveniences associated with the climacteric, but she would be obliged to go through them some time or other if she lived: they are part of her menstrual life. Some women have very little trouble, while others have a good deal, and may become drunkards, etc. Fortunately, I have never seen any such results follow the operation.

There is one condition, however, which I have seen develop after ovariectomy, after removal of one or both ovaries, and even also removal of the uterus. It is a condition of acute melancholia. I have operated now over nine hundred times, and have seen seven such cases in all. Taking into account the fact that I lost more of my earlier operations, I think that we may take it for granted that about one per cent. of our cases will take on this form of insanity and will die with the disease. I do not know if other surgeons have met with anything like so many cases in their operations; but we must bear in mind that for some unaccountable reason certain of our cases will be attacked by melancholia. It is the one objectionable point in the operation of which I am aware.

UTERINE MYOMA.

The next case is one of myoma of the uterus; in fact, we have two cases, which I will briefly discuss, without bringing them in, since you could feel nothing, and certainly can see nothing, of the disease.

The first case is 48 years of age, and does not have very much hemorrhage, and I do not believe that she suffers very much pain. In her the tumor is very hard and consolidated. I think that this belongs to the class of cases in which nature is curing the disease and thus gradually relieving the symptoms. The other woman is 40 years of age, and has had hemorrhages: being younger than the former woman, an operation may be taken into consideration, since she has to be tided over some years before her climacteric.

We did not use to operate upon women with myoma, and now, if the patient is forty-seven, we do not operate before giving ergot a faithful trial; but in younger women, under forty, it becomes a very important question. It is a question in which the patient must take a good deal of the responsibility in answering, and contribute a good deal to the answer.

If the patient suffers every month, and loses blood for a week or more, this question comes up: is it preferable for the patient, say thirty-six years old, to go on for twelve or fourteen years suffering in this way, or to perform an operation the mortality of which is about four per cent.? I can only say that if I were the patient I should have the operation done.

Now, this is comparatively a common affection, and we meet with it often, especially in the colored race, in the dissecting-room and post-mortem table, in cases where it gave absolutely no trouble during life, so that we have come to look upon it as of little importance. We are laboring under some traditions with regard to uterine myoma, and this is one of them—that it is an insignificant affection. I need hardly stop to say that those myomas that give no trouble during life are not the ones that trouble us: it is those that *do* give trouble that apply to us for relief, which it is our duty to give them.

Another tradition with regard to myoma is that it will cease at the climacteric and give no further trouble; but we find that in many of these cases the growths go on developing for years after the menopause should occur, and the patient suffers from hemorrhages that severely affect her health.

There are two operations for the relief of uterine myoma: you may remove the uterine appendages, and by this you remove the tendency to these troubles which afflict the poor patient. It has been now several years—six or seven, perhaps—during which I have employed the operation, which I consider the proper one, as the hemorrhage almost always ceases soon after its performance. The other operation is the removal of the uterus itself; and this may be done if the hemorrhage does not cease after the removal of the uterine appendages.

Now I have come to the end of my cases, and have exceeded my time. What I have brought before you has not possessed the usual interest of a surgical clinic; but I hope that you will pardon that, in view of the important subjects which I have presented for your consideration. Any faults in the lecture you must attribute to my want of experience in lecturing. I have never delivered a clinical lecture in my life until a week ago. It seems to be very unfortunate that in England it is difficult for those who have experience to get the opportunity of teaching, while those who do the teaching have not the clinical experience. You must take what I have said, therefore, not as a lesson from a British teacher, but purely as the views of a British surgeon.

VII. SURGERY.

Reduction of Dislocation of the Humerus.

The Southern *Clinic* thus gives Dr. Gissler's method of reduction :

"In my case the patients do not even have to sit down, and I operate thus :

"1. The elbow is pressed against the abdomen and then gently drawn outwards until resistance is met with.

"2. The forearm is then raised as high as possible towards the opposite shoulder.

"3. Then the whole arm is drawn outwards, and the operation is finished."

This is a valuable addition to our knowledge of the operations which are daily needed. It is simple, accurate and may be of use.

Re-Implantation of a Tooth.

At the Congress of German Surgeons at Berlin, on April 17th (*Wiener Med. Blätter*, May 8), Herr Bidder, of Berlin, reported a case of successful re-implantation of a tooth. A girl, aged 14, suffered in the summer of 1879 from a subperiosteal abscess in the anterior part of the hard palate, which caused loosening of one of the incisors. The tooth was therefore extracted, but, as it was perfectly sound in the root and every other part, it was re-inserted, after careful washing with a carbolic solution, into the alveolus, where it remained firm for more than three years. In the autumn of 1882 it again became loose, and fell out, when the root was found to be completely absorbed. This case seems to show that the re-introduction of an extracted tooth, although successful, is only temporarily so, its firmness lasting only until the absorption of the root is complete.

A Needle in the Thumb.

The *Wiener Med. Blätter* for May 8 contains the account of a case under the care of Professor Kocher, of Bern, where the presence of a needle in the muscles of the thumb was indicated by a sensitive galvanometer. A lady consulted Professor Kocher on Sept. 19, 1882, on account of pain in the ball of the left thumb, with the feeling as if a foreign body were in that situation. She had previously consulted another surgeon, who had made an incision, but without any result. Professor Kocher also failed to find any trace of a foreign body, and a course of electric treatment was decided on: this improved the local symptoms, but after two months tenderness in the brachial plexus was complained of. These symptoms continued, with remissions and exacerbations, until November 1883, when stretching of the median nerve was tried; but when the sensitiveness of the parts returned, a dull feeling of pain was still present. In February 1884 the patient consulted a specialist on nervous disease, Dr. Burckhardt, who wrote to Professor Kocher that the symptoms were clearly peripheral, not central, and that a foreign body must be present. A very strong magnet failed to give any

assistance in the search, but a sensitive galvanometer indicated plainly not only the presence of a metallic body, but its position and approximate size, and it was cut down upon and removed, eighteen months after its entrance.

A Rib of an Umbrella in the Foot.

Mr. Lawrence reported the following case to a recent meeting (October 3) of the West London Medico-Chirurgical Society:

H. M., a boy about twelve years of age, whilst running on the muddy sand without shoes and stockings, at Leigh, in Essex, suddenly ran something into his foot, causing great pain, loss of blood, and subsequent inflammation. He was seen by a surgeon in the neighborhood, who at that time explored for any substance which might have penetrated the foot, but owing to the swelling and inflammation, failed to discover anything in it. When seen some weeks afterwards it appeared to be nearly healed, and as there was scarcely any pain or discharge from the slight remaining wound, and being able to walk, he was allowed to go to school. As fresh irritation then set up, the foot was kept at rest for some time, and as it still did not quite heal, he was seen but my friend, Mr. Edward Owen, who thought that being of a strumous habit, more perfect rest would in time be sufficient to make a cure; but as there was still a small wound unhealed, and a thin discharge proceeding from it, after eight weeks keeping the foot entirely from the ground, we agreed there must be some source of irritation, perhaps a fish-bone or sea-weed, under the plantar fascia, and, therefore, made an incision into the foot and discovered a foreign body in a line with the tendons between the first and second metatarsal bones, which on being extracted proved to be a part of a rib of an umbrella, four inches in length. The surprise was that so large a body should have remained impacted in that situation without causing more pain and irritation after the first inflammation had subsided. The wound soon healed, and he was able to walk quite well.

The Value of Carbolized Water for the Prevention of Shocks in Litholopaxy, with the Results of Nineteen Cases.

Dr. Edmund Andrews, of Chicago, thus writes in the *Jour. Am. Med. Ass.*, November 1, 1884.

The power of carbolic acid to benumb the sensibility of the nerves, when applied locally, is well known. For several years I have acted on this hint in the new operation of litholopaxy, with the view of blunting the impressibility of the urethral and vesical nerves, so as to make them tolerate the prolonged use of instruments without shock. For this purpose I provide a large supply of warm carbolized water, of the strength of from $1\frac{1}{2}$ to 2 per cent., and use this exclusively, both to distend the bladder during the crushing of the stone and to wash out the fragments. The result is so gratifying that I cannot but attach great value to this method. I have tried it in nineteen cases, with only one death. The patients averaged nearly 60 years of age, and most of the stones were large. One patient of the age of 69 years, with a stone weighing over $2\frac{1}{2}$ ounces, was under the operation for about one hour and a half. There was not even a chill following this severe procedure, and he recovered without a single dangerous symptom.

One stone in a young man was of oxalate of lime and over an inch in diameter, and so hard that the first fracture required nearly the entire strength of my hands. He recovered without difficulty, and walked about town in eight days. Other cases were equally striking.

The acid seems to act favorably by blunting the nervous susceptibility to shock, and also by leaving the bladder in a thoroughly antiseptic condition, highly favorable for preventing inflammatory action.

Muriate of Cocaine in Dentistry.

G. W. WELD, M. D., D. D. S., of New York, believes that the best method of application of muriate of cocaine in the operation of removing tartar from the teeth, in Rigg's disease, is as follows: Wash the gums with a little dilute alcohol, then apply, by means of a camel's hair brush, a small quantity of a ten per cent. solution of the cocaine. Renew this once or twice, when in the course of five minutes it will be found that there is a marked numbness and diminution in the sensibility of the gums corresponding to the sides of the teeth on which the application was made. The following formula is recommended:

Cocainæ chloridi (Merck) gr. vj.
Spiritus menthæ piperitæ. 3 j.

An exposed nerve pulp was treated with the above solution, and partially extirpated, without causing any pain to the patient. In the preparation of an extremely sensitive tooth for filling, a *glycerite, ninety per cent.* in strength (made by dissolving Merck's crystals in glycerine) was allowed to remain in the cavity for a period of thirty minutes. On renewing the operation the patient stated that the pain was materially deadened. The same experiment was tried with the borate of cocaine (Foucar's crystals), and similar results apparently obtained, but the paste was permitted to remain in the cavity of the tooth for twenty-four hours.

Ligature of the Right Common Carotid and Internal Jugular Vein.

At the October meeting of the Northwest Provinces and Oudh Branch of the British Medical Association, Surgeon SHIRLEY DEAKIN, I. M. D., showed an Eurasian male patient (*Lancet*, Nov. 15, 1884), aged forty-two, on whom he had ligatured with carbolized gut the right common carotid and internal jugular vein two months before. The operations were performed at the time of the removal of a large, foul, fungating epithelial mass, which had sprung from some cervical glands, in which the disease had recurred after the removal of the right half of the tongue at a hospital in Calcutta, where a second operation was attempted and abandoned. One ligature was applied to the artery, two to the vein; and as much as possible of the diseased tissue, which extended deeply beneath the angle of the jaw, was scooped out previous to the application of zinc chloride paste with morphia. Zinc paste was applied at intervals, five times in all, the application being followed by pain on swallowing, so severe that gastrostomy was contemplated. Poultices and iodoform ointment were applied in the intervals between the applications. Subsequently dry tannic acid was dusted on the small remain-

ing mass, a saturated solution of the acid in glycerine with carbolic acid being also applied. The original opening had greatly contracted; the incision made for the ligation had completely healed, and the patient was free from pain. Though his appetite was poor, he could eat food and swallow it; he was able to be up and to walk about the garden. A complete cure could hardly be hoped for, yet the relief and comparative comfort experienced by the patient showed how much might be done in apparently hopeless cases to mitigate pain and distress.

Hydrochlorate of Cocaine in Minor Surgery.

Dr. W. H. CARMALT thus writes to the *Med. News*, Nov. 22, 1884: I to-day removed a small tumor about the size of a marrowfat pea (suspected epithelioma) from the cheek of an elderly lady, without causing her any appreciable pain during the operation, by the use of this drug. I first injected subcutaneously five minims of a four per cent. solution of the drug, obtained from Dr. E. R. Squibb, of Brooklyn, and after waiting ten minutes, as she said she still felt the point of the hypodermic needle perceptibly, I repeated the dose. At the end of ten minutes more, as she said she still felt the needle, I injected five minims more *into* the skin. It required some force to the piston of the syringe to inject this into the firmer tissue. At the end of five minutes more I began the cutting; the patient said she "felt it, but it didn't hurt—it felt like scraping." The piece removed was about three-quarters by half an inch. There was quite a free hemorrhage from the little wound, and I waited fully five, perhaps eight minutes for that to subside, when the sutures were introduced. She then exclaimed, "There! that hurts! that is worse than anything I have felt yet!" After dressing the wound, the time from the first injection was thirty-seven minutes. As she left the office she expressed herself as experiencing a sense of exhilaration; and "felt much better than when I came in."

It is unnecessary to enlarge upon the prospect thus opened to us, certainly in the field of minor surgery, aside from its uses in ophthalmic practice, if the reports so far given of the effects of this new anæsthetic should be confirmed by further experimentation. I desire to record my experience of its action as applied to the external skin, and to point out that (I think) I found a better effect by injecting the solution *into* the skin rather than under it.

Hydrochlorate of Cocaine in Dermatological Practice.

Dr. GEORGE THOMAS JACKSON thus writes to the *N. Y. Med. Jour.*, Nov. 29, 1884:

Epilation by means of electrolysis is often, to some patients, rather a painful procedure, especially about the upper lip, near the nose, and over the jaw bone, between its angle and the chin. These regions offered a good field for testing cocaine. Accordingly, I had a four-per-cent. ointment of cocaine and olic acid (not an oleate, you will perceive) made by my druggist, Mr. Fingerhut, of No. 404 Fourth Avenue, the hydrochlorate used being from a lot that had proved active in ophthalmological practice. I first tried it on the back of one of my wrists, rubbing it in for some five minutes. I found that pulling on the hairs of the part rubbed was much less painful than elsewhere. Then I had an intelligent

patient, whose superfluous hairs I was removing by electrolysis, rub it well into the left side of her upper lip and into her cheek, between the angle of the jaw and the chin. In about five minutes the anæsthetic effect was well marked, and she allowed the hair in those regions to be extracted with a current from twelve cells of a freshly-charged battery without evincing any signs of pain. Two days before, the operation had been very painful, although only nine cells were used, and on the same day the corresponding regions on the other side of the face were very sensitive. The anæsthetic effect lasted for the whole time I was working, probably thirty minutes. The patient said that some hairs were removed without her feeling it, and that the pain attending the extraction of the others did not amount to anything.

One case is not much to build upon, and I only report this to encourage others to try cocaine in similar cases. I certainly feel encouraged to try again.

Rapid Recovery after Wound of Stomach and Protrusion of Viscera.

A remarkable case of recovery after severe abdominal injury, is reported in the *Gazzetta degli Ospitali* (November 12), by Dr. Iginio Tansini. P. G——, aged forty-six, a peasant of Lodi, was admitted into the local hospital on the 10th of August, in a state of drunkenness, with an extensive wound in the left hypochondriac region. Through it protruded the stomach, the transverse colon, and a large part of the great omentum. On the anterior surface of the stomach was a wound an inch and a quarter long, through which the lining mucous membrane bulged, so as to fill it. That wound was closed with two fine catgut sutures. After cleaning the displaced viscera with cotton pledgets dipped in a two and a half per cent. solution of carbolic acid, reduction was attempted, but the tightness of the edges prevented it. As the wound reached upwards to the costal margin, it was extended an inch downwards, and the viscera replaced. The parietal wound was then found to measure three and a half inches. A considerable amount of blood having accumulated in the abdominal cavity, the toilette of the peritoneum was very carefully performed, with carbolized gauze soaked in warm carbolized water. The first pledgets brought away blood; and others were introduced amongst the coils of intestine, and into the pelvis, until they came away quite clean. After inserting a thick drainage-tube into the lower angle of the wound, this was closed with four deep and four superficial sutures of carbolized silk; a broad antiseptic dressing followed. Progress was uninterrupted; no fever supervened. In the first three days much bloody fluid was carried off by the drainage-tube, which was gradually shortened and definitely removed the eighth day. On September 5th, the twenty-sixth day after admission, the patient left the hospital perfectly cured.

Laceration of the Trachea.

Dr. P. T. Duncan reports this case in the *Brit. Med. Jour.*, November 15, 1884.

F. S., aged 22, a strongly built young gentleman, received, whilst playing football, on October 4th, a violent backward blow on the neck from the elbow of the opponent, which knocked him down. On examination, half an hour afterwards, there was found to be considerable swelling of the neck, chiefly at the lower part

of the left side, but extending, so as almost to obliterate the outlines of the trachea and larynx. It was soft, crepitant, and manifestly due to emphysema. There was some dyspnoea, considerable pain, especially with any movement of the windpipe, as in swallowing or coughing, constant expectoration of blood-tinged froth, and almost complete aphonia. Examination was necessarily very limited, but it seemed probable that the laceration was situated on the left side, about an inch below the cricoid cartilage. The skin was not injured, and scarcely discolored.

Absolute rest was imperatively enjoined, an ice-bag kept constantly applied to the neck, the head supported on either side, all attempts at talking prohibited, and, as far as possible, swallowing. For the first twelve hours, only a little iced water was given, contained (every hour) minim-doses of tincture of aconite, with five minims of liquor ergotæ and three minims of liquor morphiæ, to allay the constant desire to cough.

October 5th. He had a very restless night; there was almost constant bloody expectoration. The emphysema was chiefly on the left side of the neck, from the clavicle to the lower jaw, and also behind the sterno-mastoid to a less extent. Temperature 101°.

October 6th. The cough and expectoration were less; the swelling was unaltered. Temperature 101°.

After this day the symptoms gradually subsided, the sputum got less and less blood-tinged, the emphysema diminished day by day.

On October 18th, fourteen days after the injury, there was neither swelling nor tenderness on pressure; the voice was still very husky. The latter symptom had very considerably improved on November 4th.

Nephrectomy in an Infant.

Mr. GODLEE reports the following case in the *Medical Press*, Oct. 29, 1884: The child, a boy, æt. 1 year and 10 months, was admitted under his care at the North-Eastern Hospital for Children in August, 1883. The tumor was first noticed in June, 1883, and was growing rapidly. It was on the right side, and measured 4 inches in the long diameter and about 2 in the short. It was freely movable, and manipulation caused no pain. There were no urinary symptoms at all. The kidney was removed by the lateral abdominal (Langenbuch's) incision, and was readily accomplished as there were no adhesions to surrounding structures. The cæcum and the duodenum were the only pieces of bowel exposed. One large vein which ran over the tumor alone required ligature. There was no hemorrhage of consequence, and the whole operation was concluded in half an hour. The child had no symptoms of any kind after the operation. It ate and slept as well the next day as before, and the temperature only rose to 99 once, the day after the operation. It left the hospital well six days later. It continued well till February, 1884, when recurrence took place in the right iliac fossa and rapidly increased in size, passing down into the scrotum, and the child died soon after. Mr. Godlee mentioned eight other cases which have been recorded, showing that of them five had died of the immediate result of the operation, two had recovered well but died afterwards of a recurrence, and one was well when last heard of; but notwithstanding the unsatisfactory nature of the results, he argued that, seeing how hopeless the condition is if left

alone we should endeavor to remove these tumors in a still earlier stage, at all events until it is proved that even this proceeding is invariably followed by a fatal result. He particularly, however, pleaded against attempting the removal of the very large growths which are not unfrequently met with, showing that they will almost certainly have involved surrounding structures, and that thus while no good can follow the operation an immediately fatal result is probable. The tumor weighed about one pound, and was in structure a mixed sarcoma, most of the cells being roundish or oval, but some spindle-shaped. This is probably the usual composition of these growths, but another class was mentioned in which striped muscular fibres occur. The latter are probably congenital, and often affect both kidneys, and are thus not favorable for surgical interference.

Ununited Fracture of Spine of Scapula, Treated by Wiring Together the Refreshed Ends.

Dr. A. W. MAYO ROBSON reports this case in the *Brit. Med. Jour.*, November 1, 1884 :

The case is interesting—1, on account of its rarity, fracture of the spine of the scapula being an extremely uncommon accident; 2, because of the treatment adopted, which fortunately converted a powerless arm into a perfectly useful limb.

J. D., aged 31, whilst at his work as a miner in January, 1883, was injured by a fall of coal, which partly buried him in the pit. Besides other bruises, he sustained a fracture of the spine of the left scapula, for which he was treated by his medical man for six weeks, when he attended as an out-patient at the infirmary, where various forms of treatment were adopted, up to April 1884, when he was made an in-patient, his condition being as follows: The usefulness of the left arm was very much impaired, as the patient could not raise the limb to a right angle, and had no power to hold it up; consequently, he was entirely unable to earn his living. The whole arm was weak, and the muscles were wasted, especially the deltoid. The left shoulder was markedly lower than the right; and a gap of an inch could be distinctly felt between the broken ends of the spine of the scapula, a little posterior to the root of the acromion; the fragment being capable of replacement by raising the arm.

On March 6th, an incision three inches long was made along the upper border of the spine of the scapula, and a vertical one of an inch and a half from this in a downward direction over the centre of the fracture, which was thus laid bare after a little dissection, exposing the ends of the bone united by a dense band of fibrous tissue, about an inch in length; this was removed, together with a thin slice of bone from each fractured surface. Two holes were bored by means of a gimlet, a fourth of an inch from the edge of each refreshed surface; and, by means of two wire sutures, the ends were accurately brought together. The edges of the wound were united, and a drainage-tube inserted. The whole operation was performed antiseptically. The wound was practically healed at the end of a fortnight, although superficial granulation took some time longer to heal, where the drainage-tube had been. The arm was kept supported for six weeks. In May, passive movement of the shoulder was adopted. In August, the movements of the arm were excellent. A slight ridge could be felt where the fracture had been; but there was no pain; and although the silver sutures had not been removed, they seemed to be producing no discomfort.

Ligation of the Vertebral Artery for Aggravated Epilepsy.

Before the last meeting of the American Medical Association (*Association Journal*, Nov. 15th, 1884), Dr. EDMUND ANDREWS of Chicago, read the following paper:

The proposition to ligate the vertebral artery for epilepsy has not met with great favor among surgeons, and the scanty literature upon the subject leaves its value a matter of uncertainty. I offer the following case, not as decisively proving the usefulness of the operation, but as a contribution toward the collection of facts necessary to the decision of the question. Mr. —, at the age of 17 received a very severe and afflicting mental shock, which was followed by epilepsy. The paroxysms increased in frequency until his mental powers were wrecked. He was in a state of thorough insanity, and from that cause added to the great frequency of the fits, had to be cared for in a state of virtual confinement. Five years later, at the age of twenty-two, he was brought to me in the mental condition above described, and suffering from twelve to fifteen paroxysms every twenty-four hours.

Seeing that he had nothing to lose, I determined to try the operation. Ligation of the vertebral is easiest done in front before the artery enters the vertebral canal, and the high operation is condemned by some good authorities as too difficult, yet I have deemed it possible that the latter location, as being much nearer to the seat of the disease, might have some advantages. Therefore I operated at the upper point, cutting down upon the vessel, and tying it between the right transverse processes of the atlas and the axis. The operation proved slow and difficult, notwithstanding previous practice upon the cadaver, but it was successfully accomplished. The paroxysms were not suddenly arrested, but they began at once to diminish in frequency and severity. At the end of three months he was having only about one in three weeks, and then only when provoked by mental excitement, or by indulgence in tobacco. At six and a half months the attacks had entirely ceased, and the mental powers were so much improved that the patient was comparatively sane and able to enjoy his liberty in walking about town. At this time I lost sight of the case and am unable to give any statement of the present condition.

Hemorrhage of the Vocal Cord.

Dr. E. FLETCHER INGALS (*Jour. Am. Med. Ass.*, November 15, 1884), says: Hemorrhage of the vocal cords is so rare that the following case will be of interest to many. The patient, H. B., æt. 45, merchant, came to me during the latter part of October complaining of hoarseness and discomfort in the larynx, which had come on suddenly that morning.

On rising he had felt perfectly well, but while washing he was suddenly annoyed by a sensation as of some foreign body in the larynx that he described as a "lump in the throat" which troubled him particularly whenever he attempted to swallow.

Moderate hoarseness soon supervened.

When he called at my office about five hours afterward, the same sensations were still annoying him; he was quite hoarse and a small spot over the thyroid cartilage was tender to the touch. No constitutional symptoms were present.

I found the whole left vocal band of a brownish-red hue and thickened by sub-mucous infiltration of blood to about twice its normal size. Other portions of the larynx were normal.

I applied powdered iodoform to the larynx and directed the patient to return to his home and apply cold compresses to the neck constantly for the next forty-eight hours. At the same time he was cautioned against the use of tobacco and directed to refrain from talking.

Two days later he returned to my office much improved. I found the vocal band much thinner than before, and its free edge lighter in color from partial absorption of the extravasated blood.

I applied a mild astringent spray to the larynx and as it was imperative for him to go about his business, I directed him to wear a silk handkerchief about the neck every day and apply a cold compress every night while soreness continued, or while the larynx should feel fatigued after talking. I also cautioned him not to smoke and not to use his voice when possible to avoid it.

No exciting cause for this extravasation could be detected, in which respect the case resembled a large percentage of the cases of hæmoptysis.

The patient first came under my care about two years ago, because of nasal polypi and anosmia. The polypi and all other causes of obstruction in the nares were completely removed, but the sense of smell was not restored; however, it would return temporarily at times, lasting for a few hours and then disappear without perceptible change in the physical condition of the nares.

This, together with a history of nervous prostration extending over two or three years before he first saw me, and not yet entirely recovered from, led me to attribute the hemorrhage to disturbance of the vaso-motor nerves.

Painless Eye Surgery by the use of Cocaine.

Dr. C. BADER reports these cases in the *Lancet*, November 22, 1884.

Case 1. Lady, aged twenty-two. Burnt both cornæ with acetic acid; exhibited extreme intolerance of light and suffered great pain. An ointment composed of chrisma (one ounce) with 2 per cent. of muriate of cocaine was ordered. Immediate relief and rapid recovery followed.

Cases 2, 3. Aged sixty and sixty-five respectively. Slitting of lower tear puncta and canaliculi. Five, three, and one minute before operating a drop of a 2 per cent. solution of cocaine was applied to the inner surface of the lower eyelids. The patients did not complain during the operation.

Cases 4, 5, 6. These cases were young ladies with convergent strabismus. The 4 per cent. solution of cocaine was used in one case only to one eye, to note the difference as to pain, which was most striking.

Case 7. Tumor removed from upper eyelid. A 2 per cent. solution of cocaine was applied five, three, and two minutes before the operation. No pain was complained of when making the incision, but the patient experienced some pain while I was crushing the tumor.

Case 8. Double iridectomy. A 4 per cent. cocaine solution was applied four times in six minutes. No pain whatever at the corneal incision, but the patient felt some pain while the iris was excised.

Cases 9, 10, 11. Aged forty-five, seventy-five, and eighty respectively. Extrac-

tion of cataract by corneal flap without iridectomy ; left eye in all. Large hard cataract in the two latter cases. One week after operation the incision was healed ; central clear pupil. One case will illustrate the proceedings adopted in the others. I arrived at the patient's house at 3 p. m., and immediately put a drop of a 4 per cent. solution of muriate of cocaine on the inner surface of the left lower eyelid three times in six minutes. At the seventh minute no sensation was experienced by the patient when touching the cornea. The operation was performed in the old-fashioned way, no speculum or fixing forceps being used ; central clear pupil ; both eyes were bound.

The patient stated that he felt no pain, and seemed much pleased and astonished.

The above cases occurred from October 16th to November 10. The muriate of cocaine was prepared by Messrs. Allen and Hanburys, 37 Lombard street, E. C. A fair dilatation of the pupil indicates a more profound insensibility. I believe the future of cocaine to equal that of eserine. In cases of intolerance of light it acts like magic. Its action on the sensitive nerves of the iris must render it valuable to the physiologist. Dr. Koller, of Vienna, first brought the cocaine before the Ophthalmological Congress at Heidelberg, on September 15, 1884.

Bullet-Wound of the Cerebral Hemispheres, with Hemiplegia: Complete Recovery.

Dr. HERBERT PARSONS, of Monte Video, reports the following in the *Brit. Med. Jour.*, Oct. 18, 1884:

The inhabitants of Uruguay living an out-door healthy life, exposed to none of the debilitating influences too often concomitant with a high state of civilization, have a wonderful resisting power to injury and disease. Their diet is almost solely animal, and of that an abundance ; existence is peaceful, and requires little struggling for. The climate being healthy, there only remains hereditary imperfections of constitution to counteract the natural advantages that tend to promote recovery from injury.

The following is an example of wonderful recuperative power, together with remarkable toleration of the presence of a foreign body in the cranium.

A girl, aged 13, of healthy parents, and never having suffered from any illness, was playing with another girl, who in the course of the game fired off a revolver at her at about a yard's distance. The ball passed through the mastoid process of the right temporal bone, and took a course inwards through the convolutions of the brain, with a slight downward direction. She fell down unconscious on receipt of the injury.

I saw her one hour afterwards. She had recovered complete consciousness, and conversed rationally. The pulse was 108, not very weak ; no excitement. She vomited once. There was internal strabismus of the left eye, and complete loss of power over left leg and arm, but not loss of sensation. There was considerable hæmorrhage from the seat of injury, which was situated just behind the right ear, but no protrusion of brain-substance externally, but it could be distinguished at the bottom of the wound, after stopping the blood-flow. Whether cerebro-spinal fluid escaped or no, I cannot say, as I did not distinguish it. She was lying on her left side, and, on introducing a bullet-probe into the wound, by its

own weight it dropped down along the course of the ball until it was buried to the depth of six inches in the interior of the skull, and the end was in contact with some hard substance, as I thought, the internal surface of the opposite parietes of the skull, but possibly the bullet. The treatment I adopted was to fill up the orifice of the wound with iodoform, and over this pads of cotton-wool and lint. Cold water bandages were applied to the head, and a few doses of bromide of potassium were given to keep the nervous system from possible irritation.

The original dressing was left for several days, and when it came off the wound was closed; there was not more than a few drops of pus ever found, nor was there any inflammatory action in the surrounding pericranial tissue. She was in bed one week, on soup and milk diet with fruit; after that, she got up. There was never any fever or nervous disturbances beyond the simple fact of the hemiplegia. In one month she gained the use of her leg, and a few weeks after, of her arm. She is now perfectly well, and has not shown a sign of the injury since though eighteen months have passed since the ball entered the head. The weapon which caused the injury was an old-fashioned pin-fire revolver, throwing a ball of very small calibre.

A Note on Prepuce Grafting.

It has been recommended to use the skin of the prepuce, removed in the operation for phimosis, for the purpose of grafting on burns and ulcers, and, in this connection, the following case which Dr. Chauncey Puzey reports in the *Lancet* October 18, 1884, will prove of value.

A sailor, about thirty-five years of age, sustained a severe crush of the soft parts of his left foot, owing to a spar falling upon it and rolling about on it during a heavy gale at sea. The injury was aggravated by want of attention and exposure to cold and wet for several days, so that when the ship arrived at Liverpool and the man was brought to hospital, the integuments of the foot, from the toes to the flexure of the ankle anteriorly, and as far as the os calcis on the plantar aspect, were sloughing, and soon came away, leaving a large granulating surface all round the foot (with the exception of that part occupied by the fifth metatarsal bone, which part had escaped injury, and was covered with sound skin) and from the bases of the toes to the lines before-mentioned, the sheaths of several of the extensor tendons being exposed on the dorsal surface of the foot, and a considerable portion of the plantar fascia having sloughed away. This looked a case which would take months in healing, and in which even then a tender foot, crippled by tight cicatrices, must result—a typical case for extensive skin grafting. Therefore, as soon as the wound was in a clean and favorable condition, I obtained the patient's sanction to the removal of as much skin as might be required from a part where there was plenty—namely, his scrotum. This having been cleansed by the continuous application of carbolyzed fomentations for a couple of days, I removed two folds of this skin, each about the size of a crown-piece, but oval rather than circular, having previously passed two or three long and thick catgut threads through the folds, near the line of section. One of these pieces was then spread out on the dorsal, the other on the plantar surface of the foot, the catgut being used for tying down the transplants and preventing their tendency to roll up. Carbolyzed dressings were used, but when they were removed

after forty-eight hours, the transplants looked dark and sodden, their cuticula was separating, and the wound had a bad odor. Frequent cleansing, and gauze and oakum dressings, soon improved affairs, but the transplants looked as if they were softening down and would soon disappear. A boy having been found who required circumcision, his prepuce was divided into half a dozen pieces, and these were laid upon the wound in various places between the scrotal transplants and the healing edges of the sore. These preputial grafts adhered at once, and the condition of the sore rapidly improved; moreover, in the site of the scrotal transplants, which we thought had failed, new skin rapidly appeared, and in the course of a few weeks the whole of the large granulating surface was completely healed, partly by cicatrization, but to a great extent covered with healthy skin. Weeks instead of months had sufficed for the restoration of a perfectly useful though rather disfigured foot.

No doubt the prepuce affords much better material than the scrotum, and for large grafts it is difficult to imagine anything better than the prepuce of a healthy infant—thin, soft, elastic, free from fat, and thus readily adapted to any surface. Unfortunately, in these days of children's hospitals, the supply of material in general hospitals is somewhat limited, but in the case of a male patient, his own scrotum presents generally an abundant supply, though the material is not of so suitable a quality. As Mr. Lucas observes, the principal objection to preputial grafts is purely sentimental; still this objection has no doubt hitherto stood in the way of utilizing a material which, in these days of conservative surgery, is too valuable to be wasted.

Surgical Scarlet Fever.

Before the Medical Society of London, November 10th, 1884: Dr. DE HAVILLAND HALL read a paper founded on a case of surgical scarlet fever which occurred in a girl aged 6, who had undergone an operation for caries of the lower epiphysis of the left tibia. On the day after the operation, the temperature rose to 103.5° Fahr., and the whole of the body was covered with a bright scarlet rash. The temperature rose to 104.8° Fahr. in the evening, but was reduced by cold sponging. The rash lasted for four or five days, but the temperature fell almost to normal on the second day. On the ninth day after the operation, desquamation was noticed; and on the twentieth there was a fine desquamation over the whole body. No albumen was found in the urine. The course of the operation-wound was not unfavorably affected. Dr. Hall believed that, in this case, infection must have occurred before the operation, but would not have become manifest so soon, if at all, but for the disturbance created by the operation. This was the view taken by Sir James Paget on this point. The difficulty of diagnosis was touched upon, and considerable importance was attached to the condition of the tongue. It was very desirable to isolate the patient, even if the diagnosis was doubtful.

Mr. Francis Mason felt some doubt whether the case was in reality scarlet fever. Rashes occurred after operation which were due to the action of the anæsthetic, or were produced by the shock of an operation, or might be analogous to the attack of gout which was sometimes determined by an accident.

Mr. F. B. Jessett, accepting the diagnosis of scarlet fever, thought that Dr.

Hall had failed to establish that the fever was connected in any way with the operation beyond the mere coincidence in time.

Dr. Braxton Hicks said the real question was whether there was such a thing as a rash occurring after an operation, or after parturition resembling scarlet fever, and yet not identical. He mentioned the occurrence of scarlatiniform rash in association with abscesses in various situations.

Sir Joseph Fayrer would prefer to describe the disease as scarlet fever occurring in a surgical patient, as the term "surgical scarlet fever" was apt to convey the mistaken idea that the peculiar specific disease, scarlet fever, could be evolved out of any surgical interference.

Mr. R. W. Parker said that scarlet fever occurred with considerable frequency among children after operation. The cases were sometimes very severe, and nephritis frequently occurred. The wound, in his experience, generally opened up, even if partially healed. Isolation was of the greatest importance, and ought to be resorted to if there was any doubt.

Dr. Theodore Williams asked whether in every case a source of infection could be discovered. He would not himself attach much importance to desquamation.

Mr. Hamilton Cartwright had seen an erysipelatous rash occur twice in the same patient after extraction of a tooth. He attributed such rashes to the influence of the nervous system.

Dr. W. A. Duncan thought that there were two distinct forms of rash which occurred after parturition—true scarlet fever, and an erythema of very similar appearance, but quite innocent.

Dr. Braxton Hicks, in reply to a question, said that the rashes occurring after parturition were very variable.

Mr. Brunton had seen but two cases of scarlet fever in obstetric practice, and in neither had he been able to trace the source of infection; on the other hand, he had frequently known women to be confined without evil result in a room where at the same time children were suffering from scarlet fever.

The President was of opinion that so-called surgical scarlet fever was true scarlet fever. He had been led to this view by having almost accidentally discovered, in several cases of surgical scarlet fever, the mode in which infection might have been carried.

Dr. De Havilland Hall said that he believed that, as a rule, the process of healing of the wound was not interfered with. He thought that the cases on record were too numerous to be accounted for merely by coincidence. He had adopted the term surgical scarlet fever because it had been extensively used.

The Prognosis of Spinal Curvatures.

The following are the principal conclusions of M. PRAYAZ in a recent article on the curability of deviations of the spinal column (*Centralblatt für Chirurgie*, No. 39, 1884): Of special importance in the prognosis of curvatures of the spine is the condition of the general health. The existence of any dyscrasia, especially of chlorosis, renders the prognosis less favorable. For in an individual suffering from mal-assimilation, the skeleton is not sufficiently resisting to maintain the good results obtained by the use of apparatus; and sometimes in these cases there are such disorders of circulation as to interfere with the use of supports.

In general, the younger the individual the more easily is the deformity overcome; yet it is the rule that the treatment must be longer continued in children than in adolescents, as it is less easy to adjust the apparatus for them, and the liability of relapses is greater. The author opposes forcibly the widespread error that curvatures of the spine will disappear as the child grows older. The curvatures following pleurisy are of unfavorable prognosis, as are also those produced by paresis of the spinal muscles. Of the deformities caused by disease of the osseous system those due to rachitis present the greatest difficulties in the way of treatment; for unless the deformity be overcome before the period of eburnation its correction becomes almost impossible. The prognosis of ordinary scoliosis depends greatly upon the amount of rotation present. When taken early in hand a curvature of even considerable extent may be overcome, as soon as the general health is improved. The prognosis of a dorsal curvature is more favorable than that of a lumbar deviation. Other things being equal, the curvatures with a long radius offer greater chances of cure than those with a short radius. This is because in the latter case the individual vertebræ are more wedge-shaped, and consequently are less likely to become restored to their normal dimensions.

Azoöpermism.

Before the Philadelphia Academy of Surgery, November 3, 1884, Dr. KEEN made the following remarks upon a case of azoöpermism which came under his observation:

"A gentleman, from Massachusetts, consulted me the other day on account of having no family. He is 40 years of age, and has been twice married. He is perfectly temperate, and has never had gonorrhœa or other genito-urinary trouble. The sexual feelings are very strong. The sexual organs were normally developed, as far as could be determined from an external and rectal examination.

He had been married for the second time over a year ago, but in neither case had the wife become pregnant. In regard to the seminal fluid, he stated that in amount it was about a drachm; that it was glutinous, with more or less large masses of glutinous matter at the time of ejaculation. The specimen which the patient brought, about two hours after ejaculation, was thin and watery. Dr. Keen examined it very carefully under the microscope, and found a large quantity of granular debris, with a complete absence of spermatozooids. He had never had mumps, and the testicles were well developed. Dr. Keen had seen a number of cases of azoöpermism following disease of the testicles, and the atrophy resulting from the metastasis of mumps, but he had never before seen a case of azoöpermism in which the sexual apparatus and sexual appetite were so near normal."

Dr. S. W. Gross had seen several cases of azoöpermism in which the history was very similar to that of the case described by Dr. Keen. The genital organs were healthy, and there had been no orchitis, no epididymitis—in fact, no affection of the genital organs. In all these cases, however, he found that the men indulged immoderately in sexual intercourse. It is a well-known fact, that the more frequently intercourse takes place, the fewer are the spermatozooids.

Dr. Keen had inquired as to the sexual habits before and after the first marriage. He had not, with the exception of a brief time, practised self-abuse.

After his first marriage, his sexual relations were moderately frequent, but they were never immoderate.

Cancer of Colon.

Dr. W. DYSON reports this case in *The Med. Press*, Nov. 26, 1884: W. R., æt. 63, was ill about a year; the first symptoms were those of dyspepsia, with severe pain in right flank. In February, 1884, he had an acute illness; his temperature was 103°; some basic (slight) congestion of the lungs, diarrhoea, and a painful and tender tumor in right side. At this time there was hemorrhage and discharge of pus from bowel, and the acute symptoms subsided, though the tumor remained. The symptoms recurred, and in June he was admitted into the Public Hospital. On the evening of admission he had a rigor (temp. 105° F.) and sweating. He was then very pale and anæmic; pulse, quick and feeble; slight bronchitis; heart healthy. In the right side was a tumor which reached from liver to iliac crest; no distinct fluctuation; to percussion it was sub-tympanitic in lower and anterior parts, but in the upper and back parts, dull; it did not move with respiration; it was very tender; bowels regular; motions normal. On two occasions the hypodermic syringe was plunged into the growth, and the result was a little pus, blood, and *débris*. The right leg became œdematous, and subsequently both. No albuminuria, and no leucæmia; diarrhoea supervened; evening temperature continued high, often followed by night sweats. Death took place on August 3d, from asthenia.

Post-mortem.—A broken-down mass of cancer involving the upper half of ascending colon, and continuous with a mass at the anterior margin of right lobe of liver. In the interior was a ragged cavity containing liquid fæces and pus; the cavity extended into the liver portion. From this the bowel could be traced downwards to the cæcum, and upwards to the transverse colon. The surrounding tissues were infiltrated, and matted together by the new growth. There were no secondary deposits. Other organs were healthy.

Remarks.—The rarity of malignant disease of this portion of bowel needs a passing remark. The evening pyrexia, the rigors, and the rapid increase in the size of growth in the early stage of the case made one hope for, and strangely suspect, a pericolicitis running on to abscess, and this justified us in using the hypodermic syringe. The variations in the percussion of the tumor were fully explained post-mortem: the ragged cavity in the bowel being sub-tympanitic, but higher up in the liver being dull. This case followed the general rule of malignant disease of the bowel, in exhibiting no secondary deposit.

Treatment of Unreduced Spontaneous Dorsal Dislocation of the Hip.

From the *Lancet*, November 1, 1884, we learn that at the meeting of the Royal Medical and Chirurgical Society on October 28, Mr. WILLIAM ADAMS read a paper on Excision of the Head of the Femur in a case of Unreduced Spontaneous Dorsal Dislocation occurring during fever. The case was an example of spontaneous dislocation of the head of the femur on the dorsum ilii, occurring during the progress of rheumatic fever in a boy eleven years of age; and as the limb remained in a contracted and useless condition, the head of the femur was

excised on March 29, 1882. This operation had been first performed in a similar case by Dr. H. G. Rawdon, of Liverpool, on July 16, 1881, and published in the *Liverpool Medico-Chirurgical Journal*, January 2, 1882. In Mr. Adams' case, the patient was admitted into the Great Northern Hospital on March 4, 1882. After two unsuccessful attempts at reduction, having previously divided the adductor longus tendon, Mr. Adams excised the head of the femur by making a T-shaped incision with the long arm two inches and a half in length directly over the head and neck of the bone, and the small arm one inch in length, transversely over the head of the bone, which was at once exposed. The head of the femur was uncovered by capsular ligament, and the articular cartilage was in a healthy condition. It was found that the capsular ligament had been ruptured, and the torn margins of the rent passed on either side of, and closely embraced, the neck of the bone. After dividing the margins of the capsular ligament, the operator passed his small subcutaneous saw to the neck of the bone, and cut through it a little below the margin of the articular cartilage. The detached head of the femur was then drawn out of its position after some slight adhesions had been cut through. The round ligament preserved its normal connection with the head of the bone, and was adherent to the articular cartilage, having been divided with the saw a little below the head. The wound progressed favorably without much suppuration, and on June 1 was completely closed. On June 14, the patient was allowed to walk on crutches, and on October 1 without crutches. The limb was perfectly straight, and the movement at the hip-joint was free in all directions. The author observes that in all the cases of spontaneous dislocation which had fallen under his observation, the head of the femur had been dislocated on to the dorsum ilii. The cases were arranged in three classes: 1. Dislocation occurring during the progress of fever. 2. Dislocation occurring in cases of paralysis, generally infantile, but occasionally in the adult. 3. Dislocation occurring in the first stage of hip-joint disease, without suppuration. Excision of the head of the femur in its simplified form, as above described, the author believed, would be found applicable to all these cases, unless sufficient freedom of motion be obtained by tenotomy and passive movements. He also thought it might be applicable to some cases of fibrous ankylosis of the hip after disease in which the limb remained contracted, as free motion is seldom obtained by simply dividing the neck of the bone.

Uric Acid Calculus, which Appeared to have been Dissolved in the Pelvis of the Kidney, by Alkaline Remedies.

Dr. HARLAN N. ORTON thus writes in the *Chicago Med. Jour. and Examiner*, Oct., 1884:

Having arrived at your diagnosis in cases of calculi in the kidney, and having determined in your own mind that a stone exists, the question arises, what course are you to pursue?

The best authorities assert that "the medical treatment in these cases is unsatisfactory, and can at the best be only palliative." Now, as I do not belong to the so-called "school of medical skepticism," I have come to the conclusion from the result obtained in a case (the history of which I am about to relate) that it would be just as well to first try what remedies will accomplish before we resort to the knife.

Case.—James G., age 45 years; large, fleshy man, of a gouty diathesis. I was called to see him first, August 2d, in the morning; found him suffering from a severe attack of nephritic colic; said he had the first attack of this kind while in the Union army, about 1862, and a recurrence of the same trouble on an average of about once in six months ever since, passing a small calculus at each time, one of which he had saved and I took possession of. I concluded from the history he gave me of previous attacks, that this one would pass off about the same, so prescribed Dover's powder and applications of hot cloths to relieve pain, etc. Called again in the evening; found him resting quite easy; said the paroxysms of pain would come on about every two or three hours and last for half an hour, when it seemed as if the stone would work back into the pelvis of the kidney, and then he would have relief for a while.

August 3d (morning), condition about the same, except the pain would be a little more severe at times.

I quote his own words, "Doctor, I am in for it this time. That stone is too large to ever pass down into the bladder, unless you can give me some medicine to dissolve off part of it in the kidney."

The question came to my mind, is a doctor justified in folding his arms and waiting, in such a case as this, in hopes that the calculus might become encysted? I think not, anyhow not until he has tried the solvent properties of the different remedies.

I analyzed the calculus that he had passed in one of his previous attacks, and found it to be composed of uric acid principally, and I had good reason to suppose that the one in his kidney at this time was of the same composition. The urine gave a marked acid reaction.

After a consultation with a medical friend of mine, we concluded to put the patient on alkaline remedies—potassii acetat, gr. x, lithii carbonas, gr. iij, every hour, largely diluted with distilled water. In about twenty-four hours after commencement of this treatment, he began to pass "*red gravel*" with his urine; soon after he experienced instant relief from all pain—said he could feel the stone drop into the bladder. At 5 p. m., same day (August 4th), passed a calculus with his urine, one-half inch long by one-quarter inch in diameter, composed of uric acid, quite soft—would almost crumble between the fingers while handling it. The concretions that he passed altogether would about fill a tablespoon. His urine soon cleared up, and he has had no trouble since. The result I obtained in this case is certainly in favor of this method of treatment.

Glycerite of Iodoform in Cold Abscesses.

The *Med. News*, Nov. 1, 1884, says: Among the knotty problems of surgical therapeutics is the management of cold, chronic, or scrofulous abscesses, especially those of osteopathic origin. Even at the present day, not a few surgeons adhere to the tradition of leaving such collections unopened until they are on the point of bursting, and it need scarcely be added that the advocates of this exploded conservatism have no faith in antiseptic precautions. Unless we greatly mistake, the recognized procedure with modern surgeons is to open abscesses dependent upon carious bone by an early, free, and dependent incision, wash out the cavity with a germicidal agent, and provide for adequate drainage.

The aseptic incision and drainage of cold abscesses are, however, impracticable in walking cases, as the patient who relies upon himself or others, not surgeons or skilled nurses, to apply the dressings, is constantly exposed to the dangers arising from the putrefaction of the discharge. Hence, the plan of managing such purulent collections by the injection of an emulsion of iodoform, to which attention was first directed by Mikulicz in the *Berliner klinischer Wochenschrift*, No. 49, 1881, and the good results of which are recorded by Fränkel in the *Wiener medizinischer Wochenschrift*, Nos. 26, 27, and 28, 1884, is entitled to extended trial.

Of the twenty cases observed by Fränkel in Billroth's clinic, of which fifteen were dependent upon caries of the bones, principally of the ribs and vertebræ, eighteen were complete successes. Twelve were walking cases, of which ten were cured, but in none of these were the vertebræ involved. The emulsion used consisted of ten grammes of iodoform to one hundred grammes of glycerine, of which thirty grammes, containing about forty grains of iodoform, constituted the average injection, and, as a rule, only one application was necessary. In the most favorable cases, which were not common, there were no signs of reaction, and the wall of the cavity shrank in from two to three weeks, without the patient being confined to his bed for a single day. When the skin was on the point of bursting, a fistula formed at the site of the puncture, which delayed the recovery; but the discharge, which was tolerably clear serum mixed with the remedy, was not profuse. In another class of cases, at the end of a month there appeared to have been no diminution in the size of the swelling; and in still another group, without there having been any very appreciable change in the volume, the less distinct fluctuation and greater firmness to the touch indicated that the shrinkage of the membrane surrounding the pus was slowly going on. In both of these classes another injection sufficed, as a rule, to effect a cure.

The operation itself is conducted with the largest canula of Dieulafoy's apparatus, through which the pus is evacuated and the emulsion injected. The small wound is covered with iodoform gauze, and gentle compression is made with a roller.

As an illustration of the good effects of the emulsion in affording permanent relief, we may refer to the case of a woman forty years of age, in whom a large swelling in the right iliac region and below Poupart's ligament was symptomatic of caries of the body of a lumbar vertebra. Upwards of a quart of pus having been evacuated, one hundred grammes of the mixture, containing one hundred and fifty grains of iodoform, were thrown into the sac. In a few hours the physiological effects of the remedy were very apparent, but they disappeared in twenty-four hours. At the expiration of a month, the patient in the meanwhile having been confined to her bed, and the abscess being firmer, although little diminished, ninety grammes, or about three ounces of the emulsion, were injected, and there was no reaction. At the expiration of another month, the abscess in the interval having diminished considerably and become more firm, the operation was repeated, and the patient was discharged at the end of three months from the commencement of the treatment. When seen, nearly three years subsequently, she was perfectly well.

Penetrating Fracture of the Cranium—Recovery.

Dr. G. E. BUSHNELL, of the United States Army, reports the following case in the *N. Y. Med. Jour.*, November 15, 1884:

W. L., a miner, forty-nine years of age, was injured by the explosion of a blast, January 30, 1882, a fragment of rock striking his forehead and fracturing the skull. He was stunned by the blow, but before help arrived recovered his senses sufficiently to notice that the ground about him was bespattered with brains. With assistance he walked to a house distant about twenty rods. The writer saw him two hours after the accident. The patient was partially conscious. There was a perforation of the skull at the right frontal eminence about an inch in diameter, through which a large mass of brains protruded, extending to the eyebrow. This protrusion was so extensive that the inner surface of the cranial vault was visible for a distance of at least two inches. No foreign bodies could be discovered within the cranium, except a small piece of bone. Some strips of lacerated brain-substance, weighing about two drachms, were cut off, and the remainder of the prolapsed portion was cautiously cleansed with carbolyzed water and returned, as far as possible, to the cranial cavity. The brain, however, remained on a level with the skin of the forehead until healing was far advanced. The wound having been bandaged, the patient was placed upon the right side to insure drainage of the wound, and the attendants were directed to enforce that position. During the first few days after the injury the patient lay in a state of semi-consciousness, answering when spoken to, but not intelligently. The discharge from the wound was abundant, consisting apparently of broken-down brain-tissue. Small pieces of bone were removed on several occasions. Black specks began to appear in the discharge. These rapidly increased in number, and continued for several weeks to be profuse enough to blacken the dressings.

Fortunately, the explanation of this, at first sight rather puzzling phenomenon, was furnished by the case of the other workman present in the shaft at the time of the explosion. This man escaped serious injury, but his skin was riddled by small fragments of rock, many of which penetrated to the depth of an inch. On examination, two hours after the injury, the probe failed to detect the presence of a foreign body in any of these wounds, but on the following day masses of mud were readily squeezed from them all. The stone which inflicted the wounds was found to be a hardened clay, which, although of the consistence of ordinary rock when first mined, on exposure to air and moisture rapidly softened into an impalpable mud.

Neither the character of the injury nor the patient's symptoms excited at first any suspicion of the existence of compression. But about the eighth day the breathing changed in character, growing gradually stertorous, and there was incontinence of urine and feces. A thorough exploration of the wound was decided upon. The operation was performed on February 10th, with the assistance of Dr. J. C. McGuire, Acting Assistant Surgeon, U. S. Army. All of the edge of the cranial aperture being accessible to observation, except the inner and lower portion, which was covered by the integument, a vertical incision an inch in length was made through the soft parts at this situation. A narrow strip of bone at the inner edge of the fractured orifice was found to be fissured and slightly depressed. An attempt to elevate the depressed bone was made, using

the outer and upper edge of the perforation as a fulcrum. Slight force had been exerted, when the edge of bone which supported the elevator suddenly sank, and an elevation appeared two inches posteriorly and externally, showing the existence of a large fragment which had hitherto escaped displacement. This was reduced so easily and perfectly that it was thought best not to remove it. A cut with a Hey's saw was then made through the outer table along the line of the fissure, after which the depressed bone was readily elevated. Two pieces of bone were then discovered well to the inner side of the perforation, which had been wedged in beneath the depressed bone. These were removed, and with them a bit of black felt from the patient's hat. After this operation the patient became conscious, and convalesced without an unfavorable symptom. He began to do light work in April. At that time his friends noticed that he was very absent-minded, but his condition gradually improved in this respect. At present the cicatrix does not pulsate, and the cranial aperture is occluded by a firm septum nearly as hard as the surrounding bone. The patient is able to do with ease the heavy work which his occupation makes necessary, and, except for an occasional headache, his health is very good. With regard to his mental condition, so far as can be judged from infrequent personal observations and from the statements of his friends, it has not been permanently impaired by the extensive loss of brain-substance.

Aside from the possibly unique mode of elimination of the foreign body from the cranial cavity, this case is worthy of note on account of the rarity of recovery from extensive brain-lesions in persons advanced in years.

Transfusion of Blood.

Before the first annual meeting of the New York State Medical Association, Dr. E. M. MOORE, of Rochester, delivered an address on this subject, in regard to which, he said, there was still much to be learned, since no one method had proved superior to all others, or had inspired the implicit confidence which it was desirable should be attained. He gave a historical *résumé* of the subject, and then stated that in the early stages of the procedure there had been dangers which could now be avoided. The chief of these were, ingress of air into the veins, and a change in the constitution of the blood for coagulation. The reason that the blood was so apt to coagulate was on account of the comparatively long time which was occupied in the transfusion; and this, he thought, ought to be avoided by continuing the operation only for a certain specified and definite time. In an apparatus which he had devised, and which he now exhibited, this could be accomplished very satisfactorily. The canula was provided with a rounded stillette, on which coagula could not readily form, and with an arrangement by which the flow of blood through it could be instantaneously checked. It was fitted into the lower extremity of an elongated rubber sac, which, he thought, was preferable to a syringe, from the fact that the packing of such an instrument always had to be lubricated in order to render it tight, and impurities are thus liable to be introduced. The blood of the donor was to be taken, as a rule, from the cephalic vein, which was to be carefully exposed and raised so as to secure a copious stream of blood when the incision was made into it. The stream was allowed to flow into a funnel resting on the top of the sac, and the time of the

operation was accurately watched by an assistant, who announced the end of each ten seconds. After about two ounces of blood had been received into the sac, the upper part of the latter was rolled up so as to make a certain amount of pressure. Dr. Moore thought more than two ounces of blood should never be injected, on account of the time which it took to inject more, as it was all important that the transfusion should take place during the period of the vitality of the blood. Even less than this was often sufficient; but when a larger quantity seemed to be required, the operation was to be repeated after a greater or less interval. He preferred blood in its natural condition to defibrinated blood or to any of the saline preparations which had been suggested as a substitute for blood. In conclusion, Dr. Moore referred to a number of conditions in which transfusion seemed to be applicable, and also related some cases in which it had proved of service in his own experience.

Dr. Townsend, of Genesee county, who had seen in consultation one of the cases referred to by Dr. Moore, confirmed his report of the beneficial effects of the measure.

Dr. J. C. Hutchinson, of Brooklyn, also read a paper on the same subject, in which he announced the following conclusions.

1. It had been proved by clinical experience, and experiments on animals, that the red corpuscles of blood were short-lived, and rapidly underwent disintegration; so that the utility of transfused blood could not reside in the corpuscles.

2. An important element in the benefit derived from transfusion was the restoration of vital fluid to the vascular system, and the strengthening of the action of the heart.

3. Saline solutions were simpler and more efficacious than blood.

4. If the recent claims made for intravenous injections in the treatment of cholera, and other grave conditions, were confirmed, the operation of transfusion was one of great importance.

Dr. Rochester, of Buffalo, believed that to quality rather than to quantity was due the benefit received from transfusion, and he related a case to show the remarkably good effect produced by the injection of less than two ounces of blood—probably not more than an ounce and a half. In such a small quantity of blood, therefore, he thought there must be something more than merely a dynamic effect. In the cholera epidemic of 1849–50, in New York, transfusion was practiced somewhat after the manner described by Dr. Hutchinson; but while temporary benefit was caused by it, all the patients died.

A Remarkable Case of Empyema.

The *London Medical Record*, November 15, 1884, tells us that Dr. P. K. PEL, of Amsterdam, reports (*Berliner Klin. Wochensch.*, 1884, No. 8) a remarkable case of empyema. On January 1, 1884, the pulse was 116, soft, full, and regular; the evening temperature 101.3; respirations 48. The left side of the chest was expanded, moving very little on respiration. The intercostal spaces were obliterated. The percussion-note was everywhere dull, except near the lower border of the ribs, where it was tympanitic. The heart's dullness could not be defined above or to the left, but to the right it extended one centimetre beyond the right edge of the sternum. The breath-sounds were absent over the whole of the left

side, except under the clavicle, where bronchial breathing was audible. Vocal fremitus was absent over the whole left side, also bronchophony, except above the third rib. In the left supraspinous fossa the breath-sounds, vocal fremitus, and bronchophony were present. The right side of the chest was normal. The heart-sounds were pure, not muffled, loudest at the right edge of the sternum. The liver and spleen were normal, and the urine free from albumen.

The patient complained of fever, weakness, oppression of the chest, and cough, without expectoration. A diagnosis of left empyema was made, and after an exploratory puncture, which drew off pus, an incision was made in the eighth interspace in the posterior scapular line. After the operation, the pleural cavity was carefully washed out, and antiseptic dressings were applied. This operation failed to relieve the patient. The quantity of the urine increased, the pulse ranged from 100 to 120, the respirations 40 to 48, and the evening temperature reached 104° . The nights were very bad. On January 7, a decided bulging forward was observed over the cardiac area from the third to the fifth ribs. No cardiac impulse could be felt. The percussion of the cardiac area showed absolute dullness from the upper border of the third rib downwards, to the right to two centimetres beyond the right edge of the sternum, to the left to three centimetres to the left of the mamillary line, and about two centimetres beyond a spot at which feeble undulations could be perceived. The shape of the dull area was triangular, with blunted angles; it did not change with the position of the patient, and was limited to the left by a tympanitic percussion-note. No friction-sound could be heard over the heart. The heart-sounds could only be heard with a binaural stethoscope, but were pure. To the right of the dull area there was loud respiration, to the left indeterminate respiration.

On the ground of, 1, the shape of the dull area; 2, the bulging of the præcordia; 3, the scarcely audible heart-sounds; 4, the feeble undulatory movement in the fourth interspace; and 5, the character of the pulse, the want of harmony between the weakness of the heart-sounds and the fulness of the pulse, a diagnosis of pericardial exudation was made, which, from the condition of the patient, the fever, pain, and bulging of the cardiac area, and the presence of purulent exudation in the left pleura, was regarded as purulent. After a preliminary puncture, which withdrew pus, no impulse being given to the needle when pushed home, an incision was made and about two litres of pus escaped. On introducing the finger, the heart could be felt beating in the cavity. The fulness and tension of the pulse and the intensity of the heart-sounds improved after the operation. No change in the physical signs occurred after this. The patient developed symptoms of peritonitis and septicæmia, and died on the evening of Jan. 10, three days after the operation. The necropsy showed adhesion of the parietal and visceral layers of the pericardium, *which had not been opened*; the pericardium was as thick as a finger. The left pleural cavity was divided into two cavities, one posterior and inferior, bounded above and in front by the adherent and collapsed lung, and the other bounded in front by the wall of the thorax, posteriorly and towards the middle line by the pericardium, and above by the left lung. This cavity lay in front of the heart, and had simulated by its physical signs an exudation into the pericardium. Dr. Pel believes that this error in diagnosis could not have been avoided, and that it proves the necessity of recognizing the possibility of such a source of fallacy.

Surgery of the Intestines.

Dr. E. P. EASLEY thus writes in the *Louisville Med. News*, Nov. 15, 1884:

During the last few years much of the attention of the profession has been in the direction of abdominal surgery, and its possibilities have been asserted by many to be simply marvelous.

The remarkable success of ovariectomy, the sanguine prediction of the late Dr. J. Marion Sims in regard to shot-wounds of the peritoneum, and the reports of success attending certain surgical proceedings in gun-shot and other wounds of the intestines, are the causes of this drift of thought, and likewise the cause of this delusive hope.

So much has been predicted of the future of intestinal surgery that the more sanguine look forward to the not distant day when to be disemboweled or shot through the guts will be a comparatively trivial accident.

These false ideas will be, by-and-by, diffused among the people, and when a man dies of a gunshot wound of the intestines (which he will most likely do) his friends will accuse his doctor of malpractice. Against this pernicious teaching I utter my protest, but I would not, surely, oppose, as advised, the division of the abdominal walls to make search for a wounded vessel or intestine, and when found to secure it by ligature or suture.

Dr. D. W. Yandell, in a recent discussion of this subject, epitomized it when he declared that five out of six men gut-shot would die, despite any or every aid, three of hemorrhage, one of peritonitis, and one of septicæmia. This much by way of preface to the following report of cases:

On Sunday morning, in November, 1882, I was standing on my steps chatting with my neighbor, Dr. Lemon when an old darkey approached, hat in hand, and with a Chesterfieldian bow, announced that "a colored gemman on State Street had his in'ards cut out, and would like for us two gemmans to come and put 'em back for him." He, doubtless, was a believer in the new doctrine, and considered such an accident of little importance.

On arriving at the house we learned that a man, a stout, burly fellow of thirty, on Preston Street, in Louisville, had been stabbed in the right groin with an ordinary pocket knife. He came at once to his home in this city, riding in a street car to Portland, crossed the river on the ferry-boat, and walked ten squares to his home.

We found a knuckle of intestine several inches in length protruding through a half-inch opening in the right iliac region. All efforts to return it were futile until we chloroformed him and enlarged the opening. This done, of course the reduction was easy. He got well speedily. The protruding portion of the gut was very red and congested, due in part to the constriction at the opening and in part to the friction of a coarse woolen shirt which he wore, the motion of the street car favoring this condition. The point of the knife had entered the cavity of the intestine, making a hole that readily admitted the point of a small probe, but, as it was occluded by a hernial protrusion of mucous membrane, nothing was done.

CASE II. Late in the afternoon on the 15th of October, two years ago, A. K., a strong, healthy man, thirty-three years old, was shot at close range by a Smith & Wesson pistol of thirty-eight calibre. The ball entered the body on the right

side between the ninth and tenth ribs, five inches from the median line. With slight assistance he walked a square and a half to the Central Hotel, in this city. I saw him within twenty minutes after the accident. I was unable to determine whether or not the bullet had entered the abdominal cavity, though I was of the opinion it had not, as the symptoms did not warrant, positively, such a conclusion, there being but little shock or pain.

A hypodermic injection of morphine secured him a very comfortable night. On the morning of the 16th, his temperature was 103° , but soon fell to the normal, and so remained, never rising again above 98.4 . At night he got morphia, as before. On the 17th, his condition had so improved (apparently, at least) that he was removed to his home, six squares distant. Drank some milk and beef tea—the first nourishment taken since the injury. Pulse and respiration decreasing in frequency—no pain or tympanites—retention of urine. 18th and 19th, case *in statu quo*; 20th, slight jaundice, with mental aberration—profuse sweating—temperature subnormal—extensive discoloration of the skin on the back in lumbar region, with swelling in the centre. 21st, symptoms all aggravated—great prostration—hiccough. 22d, opened abscess in lumbar region, giving exit to offensive gas and fecal matter—comatose—death at 11 p. m., seven days and five hours after injury. Autopsy held twelve hours after death.

Ball entered, as before stated, between ninth and tenth ribs, passed through the liver two inches from its lower margin, thence through the side of the hepatic flexure of colon, making a button-hole, and then burying itself in the lumbar muscles, two inches from the spine, opposite the second lumbar vertebra, and being surrounded by pus and fecal matter. There had been no hemorrhage and the liver showed no reaction from the wound, and had this been the only organ injured I think his recovery would have been almost certain. There had been local peritonitis, with softening of the colon and adjacent tissues, all soaked in pus and fecal matter. The lumbar muscles were softened and saturated with the same materials, the whole forming a hot-bed of septic matter sufficient to poison a hundred men.

To epitomize: We had here a shot wound of the liver and intestine, with extravasation of fecal matter, and death in seven days from septicæmia. Now, gentlemen, here are some points for discussion (and it was mainly for the discussion likely to be provoked that the report was written):

1. Had only the liver been wounded, and in the manner described, would the man have lived?
2. Had only the colon been wounded, as described (only a button-hole was made, remember), and laparotomy done, the opening in the gut being sutured, would the patient have survived?
3. Had a spot diagnosis been possible (wounded as he was in liver and gut), the abdomen opened, and the hole in the bowel closed as recommended by Gross and others, would he have been saved? Or was the hurt past all surgical help?

Strangling Cancer of the Neck.

The two following cases are reported in the *Med. Press*, Oct. 29, 1884: A large, pale, fleshy woman, æt. 59, of fair complexion, admitted with extensive swelling and induration of the left side of her neck. Her general health is fairly good.

She complains of great stiffness of the neck, and of a feeling of discomfort there; no difficulty in respiration or deglutition. The whole of the left side of the neck, from the zygoma above to the clavicle below, is the seat of a diffuse, ill-defined swelling of stony hardness. At the lower part of the swelling, just above the clavicle, are several hard lumps the size of walnuts, only partially blended with the general mass of the growth. Its surface presents irregular, undulating nodulations. The overlying skin is of a purplish color, and firmly adherent to the growth. The subjacent parts are matted together, and fixed to the deeper structures. The lower part of the face is invaded, also the back of the neck, and beneath the chin the infiltration encroaches somewhat on the right side of the neck. The lymphatic glands of the neck are involved with the other soft parts in the infiltration. The throat, tongue, and mouth present a normal appearance. Hearing on the left side is much impaired. Five years ago she first noticed a few small lumps just above the left clavicle, which she attributed to a strain in lifting her husband, who was a heavy man, when he was ill. Three years later she first noticed a swelling in the left submaxillary region, "after a severe cold." Subsequent progress of the disease has been slow and painless. No injury or other known cause than that above stated. Previous health good. Married at 35; two children—first at 36, second at 37½; one miscarriage soon afterwards; never since pregnant. Her father died aged 50, of rheumatic fever. Her mother died aged 40, in childbed. Patient is youngest of a family of six; three others now alive and well; one brother died aged 37, of phthisis, and another brother died aged 70, of dropsy. There is no history of cancer or tumor in the family. The induration and swelling gradually crept round to the right side of the neck, which before death was as completely involved as the left had been on admission. The scalp and face were also invaded. After she had been in the hospital about four months spasmodic fits of coughing, dyspnœa, and dysphagia supervened, with œdema of both legs, and of the face. A few weeks later the dyspnœa and cough became very distressing, she lost the power of swallowing solids, and she could no longer sleep well. She continued thus perfectly conscious, and cheerfully fighting against the disease, almost to the last, when she died asphyxiated, 190 days after admission.

At the *necropsy* the body was well nourished. The face and upper part of the trunk were much congested. The whole of the neck, the lower part of the face, and the back of the scalp swollen, and of stony hardness. No ulceration. Otherwise the characters of the growth as previously described. The eyelids, the upper part of the face, and the scalp, œdematous. On section the soft parts of the neck matted together by a quasi-fibrous, diffuse, infiltrating growth, fixed firmly to the vertebræ and to the overlying skin. The lymphatic glands of the neck, like the other soft parts, were embedded in this infiltration; they could be distinguished in it as well-defined softish bodies, rather larger than the normal glands. The glands in both axillæ and groins were also enlarged. The larynx, trachea, and œsophagus surrounded and fixed by the dense infiltration. There was some congestion and œdema of the mucous membrane of the windpipe. Old pleuritic adhesions over both lungs, which were intensely congested and œdematous. The bronchial glands were enlarged. The spleen contained numerous small, whitish, cancer, nodules. The retro-peritoneal glands were enlarged. There was

chronic nephritis of both kidneys, and the left had a double ureter. The uterus contained three small intra-mural fibro-myomas, and three mucous polypi depended from the os. No other noteworthy changes. Microscopically the growth consisted of carcinoma; the fibrous alveolar stroma was much more abundant than the epithelial cell collections.

Case II. A well-nourished and healthy-looking man, æt. 63, with light brown hair (turning gray), bald on the top of his head, bluish eyes, and fair complexion. The whole of the left side of his neck is swollen and of stony hardness; the soft parts are matted together and fixed to the deeper structures; the overlying skin is adherent, purplish, and infiltrated. Immediately below the left ear is a semi-detached, outlying nodule, the size of a large walnut. The growth has no well-defined margins. Its surface presents undulating nodulations. The lower part of the face is slightly invaded. There is no sign of ulceration. No impairment of deglutition or respiration. The tongue, mouth, and throat are normal. General health moderately good. Twenty-five years ago, as the result of a blow on the left side of his face, he first noticed a lump the size of a walnut, below his left ear. It remained stationary until two months ago, when, without any known cause, the present induration appeared to start from it, and thence to spread over the neck. His previous health has been fairly good, though for several years he had suffered from dyspepsia, bronchitis, and rheumatism. No history or signs of syphilis. There is no history of tumour or cancer in his family; but three of his brothers have died of phthisis. The induration and swelling spread rapidly by the back of the neck and by way of the chin to the right side of the neck, which was soon extensively involved; so that a fortnight after his admission into the hospital, dyspnœa and cough supervened. A fortnight later the whole of the neck was completely encased by the growth, rigid, and of stony hardness, and the lower part of the face was invaded, causing œdema of both eyelids. The dyspnœa was now extreme, the respirations noisy, panting, and sometimes stertorous; there was frequent short, dry, barking cough, with lividity of the face and upper part of the trunk. Muttering delirium was soon added to these symptoms. He died thus forty-seven days after admission.

At the *necropsy*, by Dr. Fowler the growth was found to have completely encased the whole neck from the level of the lower part of the orbits above to the clavicles below. The skin was everywhere firmly adherent, infiltrated, and purplish; but it presented no signs of ulceration. On section, the growth was of a whitish, quasi-fibrous appearance, and of a density almost equal to that of cartilage. All the soft parts were matted together and infiltrated, and fixed to the vertebræ, the inferior maxillæ, and the laryngeal cartilages. The lymphatic glands were infiltrated and embedded in the growth like the other soft parts. The bronchi contained some frothy mucus. There were old general pleuritic adhesions over both lungs. Both were intensely congested and indurated, and of a brown tint (brown induration). The pericardium was so universally adherent to the heart as to appear blended with it. There was marked mitral stenosis, the orifice only admitting the tip of the index finger. The flaps of the valve were thickened. There was extreme dilatation of the left auricle. The liver, spleen, and kidneys were congested. No other noteworthy changes.

Remarks by Mr. Williams.—I am not aware that this particular disease has

been previously described. Its clinical and pathological features are quite distinctive. It appears to consist in a diffuse, scirrhus infiltration of the cellular tissue of the neck, as distinct from cancer of the lymphatic glands of the neck as cancer of the breast from cancer *en cuirasse* of the skin of the chest. I am inclined to the opinion that it may have originated in connection with embryonal remains of the bronchial clefts. In this connection it is interesting to remark the association of the disease in the first case with a double ureter of the left kidney, and in the second case with a pericardium blended with the heart, and extreme contraction of the mitral orifice, both of which lesions may, I think, be regarded in this case as of congenital origin.

Encephaloid Cancer of the Kidney in a Boy Seven Years of Age.

Dr. Jos. J. TOPLIFF reports this case in the *Denver Med. Times*, December, 1884:

Harry H. Fasnacht, age seven years, was brought to me by his father in the month of May last (1884), with the remark that he had not been feeling well for some time, but was up and about the house most of the time, and for that reason they thought it but a slight ailment, and that it would soon pass away; but continuing ill was brought to me for medical advice. I found he had been vomiting some for the last few days, tongue slightly coated, a slight rise of temperature, and tenderness over the region of the stomach—the examination was made over his clothing with his coat buttoned up. Considering it but some slight gastric disturbance, with fever, that would soon pass away, I prescribed a mild aperient with a fever mixture, and the case passed out of my mind, when in the course of two or three weeks the father came in and said Harry was no better. At first I thought of prescribing again without seeing the child, but it occurred to me, by the length of time that had escaped, there must be something more serious than at first anticipated, and on June 6th visited the little patient. Found the little fellow in bed, although he had been up that day, and had vomited the day before. And to my surprise, upon stripping him for examination, I found a large tumor occupying the whole right side of the abdomen, commencing at the margin of the short ribs on right side, extending down to the crest of the ilium, and across to the left and beyond the *median line*, and up and around and encroaching upon the stomach, making a large oval tumor with an elastic feel, which gave me the impression that it might be of the cystic variety. Obtaining permission of the parents to explore the tumor, on the 8th, in company with Dr. Jones, of Longmont (whom I had called to see the case with me), we punctured the tumor with an aspirator needle, but obtained nothing but a few drops of dark-colored blood. It was then my opinion, as well as that of Dr. Jones, that it was of a malignant character. I so informed the parents, and that I thought nothing could be done for the child with any hope of a permanent relief. I was informed soon after that Dr. Floyd, of Boulder, was called to see the child, but did not have an opportunity of conversing with the doctor in relation to his opinion of the character of the tumor. After his death, which occurred on August 28th, the parents consented to a *post mortem* examination. On August 29th, eighteen hours after death, assisted by Drs. Ross and Bardill, of Longmont, and Dr. Floyd, of

Boulder, proceeded with the examination. The body very much emaciated, abdomen enormously distended from size of tumor, presenting in most parts an elastic feel, superficial abdominal veins large and well marked.

I opened the abdomen and exposed the tumor, which not only filled but enormously distended the cavity, pushing the small intestines to the left side; the ascending colon laid in front and attached to the tumor by bands of adhesions, and flattened by pressure against the abdominal walls. Shape of tumor ovoid, presenting a smooth, even surface, with the exception of one or two lobular elevations, the mass extending up and embracing a greater portion of the stomach, partially enclosing and compressing it to about one-third of its natural size by strong bands of adhesions covered with fatty tissue, and extending on and upward, pressing firmly against the liver, and down upon the right side in the region of the kidney, where it was more firmly attached, which attachment was with difficulty broken down, which done, I lifted the whole mass out, estimated to weigh from 13 to 15 lbs. Upon laying it open with the knife it was of a soft pulpy consistency, highly vascular, and presenting a dark maroon color, resembling "*fungous hematodes*," and in many places, that extravasated blood had assumed a stratified appearance, in others a softening of the tissues with fatty degeneration, presenting sufficient diagnostic points, together with the entire absence of the right kidney, its slow and almost imperceptible invasion and subsequent rapid growth, attaining such an enormous size, to fully demonstrate that this tumor was the kidney itself, and cancerous, and from its cell structure of the encephaloid variety, and what may be termed encephaloid cancer of the kidney. The liver throughout was filled with fatty nodules, unquestionably secondary as the result of pressure upon the portal circulation.

The points in the case.—No very marked symptoms in its invasions to denote the serious and fatal termination so soon to follow, with its subsequent rapid growth and enormous size in a child of 7 years, and the rarity of this character of disease attacking the kidney.

Some Forms of Gangrene.

Prof. BILLROTH, of Vienna, writes as follows in the *Med. Press*, Nov. 26, 1884:

We have completely given up the theory that inflammations may originate in consequence of cessation of nervous activity. This theory was, for example, supported by those cases in which pneumonia has come on after division of the vagus; these pneumoniæ are, however, to be explained by the fact that anæsthesia of the glottis, that follows division of the nerve, readily permits the entrance into the lungs of irritating foreign bodies. We rather maintain that cessation of the circulation is the cause of the mortification, of the gangrene. Disturbance of circulation must not always be attributed to blocking up of the vessels; it may be caused by the arteries being so firmly contracted that no more blood can enter them. The contraction of the vessels must be continuous and complete, so that no more blood courses through, and, finally, the vessels must be terminal arteries if gangrene is to take place. How long does a part of the body emptied of its blood retain its vitality? Much longer than one would believe. In cases of local anæmia produced by Esmarch's bandages—as we use them in amputations—the observation has been repeatedly made that extremities

that have been kept completely bloodless for two hours, recover completely. But the blood-vessels do not remain completely uninjured when kept empty longer. First we remark that, when we have kept an extremity bloodless in the way mentioned fifteen minutes, the capillaries have become paralyzed. When we take off the elastic bandage, we see that the blood enters the vessels with greater force, that the parenchymatous bleeding is greater than if no local anæmia had been produced. This shows that keeping the blood-vessels empty for a longer period has an influence on their walls; they are no longer able to offer the normal resistance to the blood pressure; if the anæmia is continued for a still longer time, however, the walls of the vessel undergo such changes that they lose their power of keeping the blood fluid—the blood coagulates. When in cases of inflammation the changes that take place in the tissues are continued to the walls of the vessels, if the infection that sets up the inflammation attacks the walls of the vessels, coagulation takes place. There are cases of whitlow that pass on to gangrene so rapidly that, judging from other analogous processes, it is highly improbable that the gangrene arises from simple thrombosis, but we must assume that it is a bacteria ferment that robs the tissues and the vessels of their vitality. Those cases are interesting in which gangrene sets in a very short time after the reception of trivial injuries. Thus I have seen the following cases: The finger of an individual was bitten by the fine-pointed tooth of a squirrel. The wound was the size of a pinhead, and yet twenty-four hours after the receipt of the injury the finger was gangrenous. Here one must assume that some poison, accidentally present on the point of the tooth, was brought into the wound, and that this produced such changes in the vessels that the vitality of the tissues was destroyed. The gangrene that follows the bites of adders is similar. The poison, in the act of biting, is injected into the wound, swelling and hyperæmia follow with great rapidity, and not unfrequently also gangrene. I have had the opportunity, during the last six months, of seeing three cases of gangrene following the ignorant application of concentrated carbolic acid to the finger. For some object or other a medical man had ordered a patient's finger to be enveloped in a 5 per cent. solution of carbolic acid; in a short time the finger became gangrenous; a similar occurrence took place in two other cases. As regards the form of gangrene, it was dry in these cases. Those cases of gangrene are very rare that result from narrowing of the vessels in extreme anæmia, so that in the smaller vessels no circulation takes place. This form is called gangrene exanæmia, and mostly occurs in hyperchlorotic individuals. Still completely enigmatical as to their essential nature and etiology are those cases of gangrene which the French have designated by the terms *asphyxie locale* and *gangrene symétrique*. It is not only the peripheral parts of the extremities that are now affected, but gangrenous patches make their appearance symmetrically on other parts of the body. The slough falls off, and healing takes place by granulation. The symmetrical appearance of the gangrene is attributed by most observers to an affection of the nerves of the vessels. The case I present to you bears all the characters of *asphyxie locale*. The patient (female) has already lost the tip of the index finger of the right hand by gangrene; you now see the index finger of the left hand gangrenous. The condition of the patient does not permit us to assume gangrenous anæmia. She has a good color, the

radial artery is well developed, the heart normal. The cause of the gangrene must lie in the arteries of the finger, perhaps in the arcus volaris. Gangrene from ergotine poisoning depends on a spasmodic contraction of the smaller arteries. Enigmatical forms of gangrene may follow any of the acute diseases. Various causes may underlie the development; generally they depend upon emboli; in many cases blocking up of the smaller capillaries by bacteria may be considered. In so-called marantic gangrene the primary coagulation of the blood takes place in the capillaries in consequence of weakened circulation. This weakening of the circulation may depend, 1, On diminished energy of the heart; 2, On thickening of the walls of the arteries; 3, On atheromatous changes in the arterial walls which have lost their elasticity. All these causes are frequently in play simultaneously; it is then no wonder that the parts lying far away from the heart become gangrenous, as the blood-stream does not reach them. A not unfrequent form of the marantic gangrene is that which follows thrombosis of the femoral artery below Poupart's ligament. The gangrene that follows acute diseases is also improperly described by many as marantic.

Cocaine in Intra-nasal Surgery.

DR. WILLIAM CHAPMAN JARVIS thus writes in the *Medical Record*, Dec. 13, 1884: On the receipt of the intelligence of Koller's experiments* with cocaine, through Dr. Noyes' communication, the first thought was naturally one suggestive of startling possibilities corresponding in direction with the reader's line of inquiry. In response to this impulse I have conducted a series of experiments with the new anæsthetic in operations upon the nares, and in view of the remarkable and positive character of the results obtained, feel encouraged to relate my experience with certain additional corroborative testimony.

The cases reported have been selected on account of the exaggerated sensibility of the structures involved, and as such offer excellent evidence of the powerful analgesic action.

Mr. —, banker, consulted me on account of an annoying nasal catarrh. Examination revealed, among other things, a deviated septum pressing against a congestive hypertrophy of the left antero-inferior turbinated tissues. The deviated cartilage extended as a narrow horizontal ledge to the osseous edge of the septum, and obstructed nasal respiration through the left nostril. While employing a probe to point out the site of the affection, it happened to lightly touch the septum. The patient started as if severely injured, and invariably exhibited signs of intense discomfort. When the manipulation was repeated, intense sensitiveness was exhibited, and my prospects of assistance from the patient in a deliberate operation could hardly have been less favorable. A pledget of absorbent cotton was inserted in the nostril, against the abnormal structures, and a few drops of the cocaine fluid placed upon it by means of a camel's-hair brush. At the expiration of twenty minutes the cotton was removed. The first effect observed was the retreat of the lower turbinated tissue from contact with the septum, thus affording more room for operative manipulation. This peculiar action of the cocaine has already been described by Dr. Bosworth. I tentatively

* Wiener Medizinische Wochenschrift, No. 44, 1884.

nipped off a piece of the septum with my fenestrated cartilage forceps; the procedure, according to the patient's statement, was perfectly painless. Emboldened by this I commenced work in earnest, the slight amount of bleeding enabling me to continue operating uninterruptedly for five minutes. During this interval the patient declared there was an entire absence of sensation. The parts were then cleansed of tissue débris. In five minutes sensation had returned. I reapplied the cocainized cotton, and after leaving it in five minutes, proceeded with the operation. In this interval I removed the whole length of the remaining deviated cartilage. The patient could with difficulty find words to express his profound sense of satisfaction.

Amanda D—, aged sixteen, referred to me by Dr. S. Hemingway. Congenital occlusion of the nares from malformation of nasal and turbinated bones. Bridge of the nose almost entirely wanting. Interocular space very broad, falling of the lower jaws, with associated signs of habitual mouth breathing. Both nostrils impacted with flesh-like masses, having almost the firmness and elasticity of rubber. The structures were jammed so tightly against the wall of the septum as to give at first sight the impression of its fusion with the cartilage. The turbinated tissues present none of the usual signs of hypertrophied membrane, having the appearance of slightly congested turbinated tissues, and having only a trifling tendency to retract when touched with cocaine. The tissues still possessed a sensibility evidently equalling that of the normal erectile structures. The posterior nares were obstructed. A case of congenital stenosis successfully treated by me several years since presented many features in common with this one.*

I had operated upon Amanda D— on a previous occasion, employing my transfixion needle and écraseur. The child did not possess a particle of fortitude, causing me a great deal of trouble by her persistent crying; and in spite of every precaution for her comfort, she proved herself to be one of the most intractable patients I ever had to contend with. This state of hyperæsthesia was probably due to the prolonged contact of these delicate tissues with the septum narium. The case seemed an excellent one for the employment of cocaine. I therefore placed a pledget of absorbent cotton in the left nares, and moistened it with a few drops of the solution, carried into the nostril upon a camel's-hair brush. After the expiration of fifteen minutes I removed the cotton, and deliberately transfixed the pale tissues, the passage of the needle, as stated by the patient, causing absolutely no pain. The loop was likewise painlessly introduced, and the operation satisfactorily completed.

After an interval of five days I continued operating, replenishing my cocaine bottle from a neighboring druggist. The solution, though applied as in the first instance, did not have the desired effect. I then procured a fresh solution from still another druggist. This fluid likewise failed. Later in the day I procured some of the original preparation, and found it as effective as in the first instance. Small portions of the turbinated bodies were successfully removed by means of the fenestrated cartilage forceps, an expeditious but more painful and bloody method than excision with the wire, and therefore never employed by me for this purpose. The controlling influence of the cocaine over the blood supply re-

*Archives of Laryngology, vol. iii., 1882.

moved this objectionable feature, and furnished a clear field for operation. As the incisions gradually included the deeper-lying tissues they became sensitive, requiring fresh applications of the cocainized cotton.

Mr. P——, merchant, thirty-two years of age, was seen by me in consultation with Dr. Bellows, of Brooklyn. The patient had been unable to breathe through the nose for fourteen months. The nostrils closed gradually, the right being the first to become involved.

Dr. Bellows informed me that he had already been in the hands of a physician, who employed the galvano-cautery for several weeks. A surgical procedure of a more formidable character was next employed, the patient emerging from etherization only to be confined to the house for three weeks on account of the severity of the operation, and an otitis media acuta set up by the traumatism. After recovering from these unfortunate sequelæ, his condition was worse than before the operation. An examination showed the right nostril to be entirely occluded by a combined deviation of the septum and turbinated hypertrophy. A very narrow chink in the left nostril permitted the occasional entrance of a feeble current of air, enabling the patient to partially remove pent-up nasal secretions. It possessed, however, very little respiratory value.

I have been gradually clearing the nostrils for several weeks, removing small portions of the tissues in such way as not to interfere with the patient's business. Although the careful excision of small portions of bone and cartilage greatly diminished his suffering, there were, nevertheless, moments when he complained severely of the pain inflicted by the *rongeur* and cutting forceps. I employed cocaine by placing small bits of absorbent cotton in contact with the already wounded and tender surfaces, and dropping the solution upon it by means of a pipette. In thirty minutes the pledgets were removed and a tentative test made. Although the forceps inflicted pain, superficial sensation was reduced to a degree permitting the stripping off of membranes partly divided in a previous operation. Another application of cocaine was made, the cotton being again removed after an interval of fifteen minutes. I then commenced to divide the tissues, and was told to continue the operation, as no pain was inflicted. I continued operating for three minutes, when the patient interrupted me while cutting away the deeper structures over the vomer. In this interval bone and cartilage were alike divided without causing the slightest pain. This method of alternately benumbing and cutting was continued for more than two hours and a half, the patient being in the best of spirits during the entire interval. He left the office breathing through a free opening into the posterior nares, and thoroughly convinced of the pain-relieving properties of cocaine.

The following history, reported through the courtesy of Dr. William Vanderpoel, offers additional evidence in a case in which my *écraseur* was recommended: Mrs. Annie M——, aged twenty-nine years and six months, pregnant, presented herself at my office, November 3d, suffering from a growth in the left nostril, which protruded three-fourths of an inch, was about three-fourths of an inch in diameter, of a dark red color, firm upon pressure, and insensible to ordinary manipulation. Two months previous she had come to me, presenting a small growth in the left nostril, which had all the characteristics of an ordinary gelatinous polypus. Under ordinary circumstances I should have removed it at

once; but considering the fact that she was then four months pregnant, and had previously miscarried three times, in each instance with profuse flooding, I feared the shock of an operation and ordered a spray of carbolic solution (1:100), under which treatment the growth seemed to disappear, but a month later returned.

Still fearing an operation, on November 9th I injected the tumor with a few drops of glacial acetic acid, and also gave the patient a powder, composed of tannin, to be snuffed up the nostrils as best she could. On November 15th there was little improvement, so I decided upon an operation. To lessen the pain and shock of the operation, I employed the muriate of cocaine, two per cent. solution, applied with a camel's-hair brush, to inside of the nostril, as well as the tumor would permit the insertion of the brush.

I made three applications at intervals of ten minutes, using in all 3ss. of the solution, or about one grain of cocaine muriate. The first application was rather painful from the contact of the brush, but the subsequent caused no uneasiness. The Jarvis' snare was then applied without any discomfort, and passed well up to the root of the tumor, which seemed to have origin from the middle turbinated bone. No pain was experienced during the operation, and after an hour and a half the tumor came away, the patient not losing more than a few drops of blood during the entire operation, and no hemorrhage followed it.

In addition to the foregoing cases I have employed cocaine to remove polypi and hypertrophied turbinated tissues, and have found it useful to facilitate the practice of posterior rhinoscopy, and to alleviate pain in the larynx and pharynx, I do not consider its employment urgent in the removal of polypi and turbinated hypertrophies, since these growths, especially the former, can be in most instances removed with little or no pain by means of my nasal écraseur. The time required to make the operation painless with the snare is necessary also to prevent the occurrence of annoying hemorrhage. Although cocaine at times restrains bleeding, its action in this respect is not necessarily permanent. I have observed tissues pale and bloodless when divided under the influence of cocaine, bleed profusely as soon as the effect wore off. The employment of cocaine in the nostril has been referred to in this country by Bosworth, Bettman, Ingals, Knapp, Gruening and Claiborne.

It is curious to note that while Professor Wöhler and Dr. Niemann mention its effects upon the tongue, they claimed it possessed no action upon the eye.* Von Anrep (*Archives für Physiologie*, p. 56, 1880,) experimented upon himself by pencilling the tongue with a weak solution of cocaine, and observed a loss of sensation. The blood-vessels were first constricted, then dilated, and eventually resumed their normal condition. It was probably this discovery that induced Fauvel and other European laryngologists to employ cocaine in examinations of the throat. Although I have only employed a four per cent. preparation of the salt, the experiments of Jelenek† indicate an advantage to be obtained by the employment of stronger solutions (twenty and thirty per cent. alcoholic) of the salt. The difference will probably show itself in a deeper and more rapid effect. My remarks upon cocaine analgesia would be incomplete without reference to

* American Journal of Pharmacy, 1860, vol. xxxii, p. 450.

† Wiener Medizinische Wochenschrift, No. 45, 1884.

another agent of this kind. I allude to rhigolene. Although no record of its use in intra-nasal surgery has come under my notice, rhigolene has yielded excellent results in my hands. For the present I must content myself with a brief account of the method, since a detailed description would be foreign to the subject of my paper.

The petroleum naphtha, proposed by Dr. H. J. Bigelow, of Boston, as a local anæsthetic, boils at 70° F., and, in the form of a spray, is capable of reducing the temperature 15° below zero. Rhigolene, when applied with a suitable atomizing apparatus, will effectually freeze the tissues in less than a minute.

I make use of a special contrivance for this purpose. Its action is more prompt and deeper, but of shorter duration than that of cocaine. Cartilage and mucous membrane can be deeply and freely divided without pain or hemorrhage. The rapid disappearance of the artificial congelation makes it necessary for the operator to act with promptness and energy. In cases requiring extensive operative interference, frequently repeated applications of the rhigolene spray are necessary. This, however, does not apply to the practice of *écrasement*. Tissues properly snared with the wire loop of my nasal *écraseur* can be continuously frozen and divided. I have utilized partial cocaine anæsthesia to facilitate transfixion and snaring of the turbinated tissues, rapidly completing the operation with the rhigolene spray. It is hardly necessary to add that daylight must be employed for illumination, on account of the inflammability of the naphtha fumes.

Rhigolene acts more rapidly than ether, and for this and other reasons is to be preferred.*

Conclusions.—1. Cocaine is useful in intra-nasal surgery, as a local anæsthetic, for the removal of deep as well as superficial tissue abnormalities.

2. Repeated applications are required for the removal of the deeper structures, the time requisite for anæsthesia always being shorter after the first effect has been obtained.

3. By promoting quiet and preventing secretion, hemorrhage, and sneezing, it facilitates the employment of cutting instruments within the nasal cavity.

4. The action of cocaine for profound anæsthesia depends upon the quality and quantity of the salt.

5. In rhigolene we possess a most valuable local anæsthetic for intra-nasal operations, the effects produced being more rapid and complete, but of shorter duration than those of cocaine.

6. Rhigolene is advantageously employed in conjunction with cocaine.

* Dictionnaire de Médecine, etc., Littré and Robin.

QUARTERLY COMPENDIUM
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MEDICAL SCIENCE:
—A—
SYNOPSIS

—OF—
THE AMERICAN AND FOREIGN LITERATURE OF MEDICINE,
SURGERY AND COLLATERAL SCIENCES.

EDITED BY
D. G. BRINTON, M. D.,

—AND—
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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

Abnormality of the Bones of the Forearm.

To the New York Pathological Society (Feb'y 21, 1885), the President, Dr. JOHN A. WYETH, presented a girl about 9 years of age, who was noticed always to carry the hands with the palms downwards, being unable to pronate and supinate them. It was believed on examination that there was fusion of the shafts of the radius and ulna. Dr. Wyeth did not remember that a similar case had been shown to the Society. A sister of the patient was normally developed.

Salivary Calculus of Steno's Duct.

To the New York Pathological Society (Feb'y 21, 1885), Dr. E. C. SEGUIN presented a specimen obtained from a gentleman who was under treatment for specific hemiplegia. He was now in good general health; but a few days ago, without any apparent cause, the cheek began to swell in front of the parotid gland, and there was also swelling to be seen about the orifice of Steno's duct, from which a profuse amount of mucous fluid escaped. The next morning the patient found the calculus presented lying between the cheek and jaw, and the duct was diminished in size. A few years ago Dr. Seguin met with a similar case of calculus of Wharton's duct in a lady of gouty diathesis. There was swelling and an abnormal tenderness, and on introducing the probe into Wharton's duct it came in contact with a hard substance. Within a few days the calculus was thrown out spontaneously, as in the case just related. It seemed somewhat remarkable that there could be spontaneous extrusion of calculi of so large size.

Tumors of the Neck.

Before a recent meeting of the Academy of Medicine, in Ireland, Dr. KILGARIFF exhibited a large cervical tumor, removed by him from a young woman, aged 25. A similar growth had been removed from the same place six years before. It implicated the lower part of the ear, the face, and the ramus of the jaw, the side of the neck overlapping the clavicle and lying on the sheath of the carotid, and was deeply imbedded in the parotid region. It became ulcerated six months before operation, and she became much reduced by the hæmorrhage from the ulcer. Photographs were shown of the patient before and after the operation, which proved very successful. Dr. Coppinger, having examined the growth, reported that it was encapsuled, and that the fresh section showed large translucent areas. Microscopically the sections presented the characters of myxomatous tissue. The outer parts were chiefly made up of lymphoid tissue. He considered it a lympho-sarcoma.—Dr. Coppinger said the microscopic examination showed the

specimen to be a sarcoma which had undergone myxomatous change, to which its non-vascularity was due.

Myxosarcoma of the Spermatic Cord.

To the Pathological Society of London (Jan'y 20, 1885), Mr. PEPPER showed this specimen, removed from a patient aged 75 years. The tumor had existed for ten months. It was encapsuled, and weighed a pound. Two or three cysts projected from the growth, the anterior surface of which was deeply grooved by the spermatic cord. The testicle and vas deferens were free: no secondary deposits. The sectional surface presented generally a gelatinous quivering appearance. Microscopically there was much mucous tissue, with a clear ground substance threaded by fibres of connective tissue, and strewn with round, oval, angular, and branched cells. The author referred to the rate of growth and its affinities in structure to sarcoma, and alluded to several recorded cases of connective tissue growth springing from the spermatic cord. He also showed a specimen of colloid cancer of the spermatic cord. There was a similar growth in the other cord. There was also disease of the œsophagus. It was to be supposed it had started in the remnant of some foetal structure left there after the descent of the testicle. In reply to the president, he said that the growth in the œsophagus was also colloid; and in answer to Mr. Doran, he said that there were no secondary growths arising from the cyst.

Mr. Butlin referred to a similar case exhibited by Mr. Walsham, and mentioned a case he had seen in which it was found that the testicle and tunica vaginalis were free, and the tumor therefore probably grew from the spermatic cord. In both the cases the tumors were sarcomatous.

Cancer in a Cirrhotic Liver and Adrenals, with Pigmentation of Skin and Visceræ.

Before the Pathological Society of London, (*Lancet*, February 7, 1885). Dr. CARRINGTON showed specimens from a patient aged fifty-four, who for two months before admission into Guy's Hospital had been suffering from epigastric pain and growing weakness, which had become so great that he could hardly walk across the road. The skin was everywhere of a walnut-brown, except in the axilla; the mucous membranes were not stained. In the epigastrium was a tumor evidently connected with the liver. He gradually became more and more feeble, and died three weeks after admission. At the necropsy the body was well nourished, the lungs were of a deep-black color and œdematous; the blood was fluid, and there were ecchymoses beneath the pericardium. The site of each adrenal body was occupied by a cyst the size of a large orange containing soft brown grumous blood-clot. The surrounding tissues were not infiltrated. The liver weighed sixty-two ounces, and was extremely cirrhotic; its color, internally and externally, was black. Scattered thickly through the organ were nodules, looking like altered blood-clot; several were as large as a pullet's egg. The spleen weighed thirteen ounces, and was very black externally and internally. The case was worthy of note on account of the obscurity of its pathology; though the naked eye appearances were of cancer of the adrenal organs, yet the microscopic examination had shown that the walls of the cysts consisted of normal suprarenal sub-

stance. The apparently secondary growths in the liver consisted of clumps of altered liver cells. The pigmentation of the skin and viscera showed either that cancer of the adrenal bodies could produce the pigmentation, or that the patient was the subject of malarial melanæmia. Microscopic examination did not, however, confirm this view.

The Pathogenesis of Epilepsy.

We read as follows in the *Med. Press*, February 18, 1885: As the result of his experimental investigations (previously referred to in these columns) into the subject of the pathogenesis of epilepsy. Dr. P. Rosenbach, of St. Petersburg (*Virchow's Archiv*), arrives at the following conclusions:

1. The attacks of epilepsy that are produced in dogs by electrical stimulation of the brain are the results of an irritation of the cortical centres, and afford, according to the conditions of stimulation, the greatest similarity to the so-called cortical, or to idiopathic epilepsy of the human subject.

2. No essential difference, pathogenically considered, exists between the so-called cortical and idiopathic epilepsy, but still, inasmuch as the former is a symptom and a result of an organic cerebral affection, and in its clinical course is not identical with the latter, it must be differentiated as organic from idiopathic (functional) epilepsy.

3. The convulsive attacks of idiopathic epilepsy as well as attacks of *petit mal*, are effects of morbid excitation of the cerebral cortex.

4. The diversities of the clinical phenomena of epilepsy are due to diversity of the kind and the degree of extent of the pathological cortical excitation that originates the attack.

The theory that places the point of origin of the epileptic attack in the centres of the medulla oblongata and pons varolii is not in accord with the clinical symptoms of the disease, and is not based on satisfactorily secure facts.

The Iron Process in Histology.

Dr. H. A. REEVES thus writes in the *Brit. Med. Jour.*, February 7, 1885: A reliable and time-saving process is always of value, therefore I venture to call the attention of working pathologists to the following plan. I may premise that iron was first, I believe, used in normal histology by Polaillon, in the study of sympathetic ganglia, and subsequently by the Drs. Hoggan, for bringing out the details of articular cartilage; but, to my knowledge, it has never been used to any extent in morbid histology. I have been in the habit of employing it for some years; and, as I cannot find any reference to it in the most modern works on the subject, it will be well to draw professional attention to the method I employ, through the medium of the *Journal*.

Preparations that have been hardened in alcohol or methylated spirit are either placed for twelve or twenty-four hours in a solution of chromic acid, one-eighth per cent., or in water; they are then frozen in gum, and cut by the Williams-Swift microtome, and floated on to water. Thin sections are selected, and placed for a minute in strong spirit, then dipped, for half a minute, in ordinary tincture of perchloride of iron, and at once from this (without washing) into a 2 per cent. alcoholic solution of pyrogallie acid for half a minute, then washed in

water. In another minute they are ready for dehydration in absolute alcohol, and can be at once passed through clove-oil and mounted in Canada-balsam in the ordinary way, or they may be washed in water and mounted in glycerine. The preliminary immersion in spirit is not absolutely necessary, though I think that it somewhat improves the action of the iron and acid, and perhaps gives better preparations.

This plan is suited to any morbid growth, but it is especially applicable in growths in or near epithelial surfaces. The details of all kinds of tumors can be accurately studied, and even the finest fibres of the stroma and its contained cells can be distinctly made out.

Tumors of the Pituitary Body.

The *Lancet*, February 7, 1885, very truly and opportunely says that pathological anatomy affords abundant illustration of the principle that morbid action is prone to occur in tissues and organs which have ceased to take any important share in the physiology of the economy. At a recent meeting of the London Pathological Society, the members were treated to an inspection of several new growths of the pituitary body, the development of which has been the subject of much controversy among embryologists. Von Baer and Schmidt taught, in 1862, that the whole of the gland was developed at the expense of the infundibular process at the floor of the third ventricle. In 1838 Rathke stated that a diverticulum from the upper end of the alimentary canal shared in the formation of the hypophysis. Dursy made the pituitary body to be formed out of the end of the notochord, as well as of the epithelium of the alimentary tract. Reichert at first believed this structure to be developed from the remains of the front end of the notochord, but later on he considered that the pia mater was chiefly involved in its formation. Rathke also modified his earlier views, and came to believe that the diverticulum of the alimentary canal disappeared, and that the hypophysis cerebri was developed from a portion of mesoblast in front of the clinoid process. Wilhelm Müller wrote an elaborate memoir on the development of the pituitary body, in which he made out that a hypoblastic diverticulum from the upper end of the alimentary tract joined the infundibulum from the third ventricle. Götze and others, however, believe that the epiblast of the stomodæum is concerned in the formation of the diverticulum which goes to meet the infundibular process, and this was the view which Mr. J. B. Sutton adopted at the discussion above mentioned. The excellent specimens of the myoneuroma shown by Dr. Hale White contained abundant nerve cells and striped muscle fibre. The mesoblast around the upper end of the alimentary tract is no doubt the source of these striped muscle fibres, and the explanation proffered by Mr. Sutton that a larger amount than usual of nipping off of the epiblast took place is very reasonable, though it seems to the *Lancet* hardly necessary, seeing that it is almost impossible for an epithelial diverticulum to be formed without including some of the mesoblast which invariably surrounds it. All that is requisite to suppose is that this mesoblast underwent an unusual development.

Synostosis of Dorsal Vertebrae.

In the Pathological Society of London (January 20, 1885), Mr. DAVIES COLLEY described this case. The patient was aged 32, and had been to sea; after that he was employed at a cement factory, where he worked in hot rooms. He suffered much from rheumatic pains. He came under observation five years previously, and had then a prominence of his dorsal spines. He suffered much from abdominal pain. From the fifth dorsal to second lumbar vertebrae was a uniform convexity, not lateral, no movement between the vertebrae. He had difficulty in walking, especially in going upstairs. There was a nodular enlargement at the junction of sternum and first rib. Chest almost motionless during breathing. He improved with iodide of potassium, and felt benefit after this from the application of a Sayre's jacket. Similar cases had been shown by Mr. Clutton, Dr. Allen Sturge, and Dr. Fagge: the patients were all aged about 30. There was chronic inflammatory change, with tendency to ossification of the ligaments about the vertebrae. It was uncertain whether the anterior ligaments were affected or not. The patient had had gonorrhœa, but the disease had commenced before this. His father had had acute rheumatism. Why was the spine curved in this position? Probably because he kept the muscles of the back relaxed.

Dr. Wilks believed that modifications of this disease were common, and the cause of a good deal of discomfort. Partial changes in the vertebrae were commonly found in the *post-mortem* room. It was remarkable that the disease occurred in such young people, but a stiff back was certainly common in old people. The changes were common enough, but the question was how far they produced symptoms.

Dr. Norman Moore said that this disease of the vertebrae was of great antiquity. But it seemed possible that ankylosis might result from overgrowth of bone, and not from the disease which occurred in old people.

Dr. Goodhart asked how far injury would produce such a state. He alluded to a bricklayer in whom he attributed the condition to the constant stooping.

Dr. Barlow said that most of the specimens were examples of union of vertebrae by side-splints. Dr. Wilks' view would not explain such a case as Mr. Davies Colley's. He had seen four cases, three being in young adults. One of his patients dated the disease from gonorrhœa; he also had arthritis deformans. In two of his cases there had been rheumatic fever.

Mr. Sutton had found a precisely similar affection in a camel; there was no other osteo-arthritis. In the museum in Dublin the bones of an Irish elk exhibited this disease.

Mr. Davies Colley thought that in old people the curvature was simply due to weakness. Also in old people the disease affected the bodies of the vertebrae rather than the ligaments.

Researches on the Neuroglia of the Retina of Vertebrata.

The *Lancet*, Feb'y 7, 1885, tells us that in the first part of the *Archives Italiennes de Biologie* for 1885, Dr. JOSEPH SACCHI gives an account of certain special investigations he has made in regard to the structures of the retina. H. Müller demonstrated before his lamented death that in all vertebrates there was a system

of nucleated elements, which he termed fibres, that were sometimes disposed in fasciuli, and were sometimes isolated, traversing the whole thickness of the retina from the internal limiting membrane to the external nuclear layer. He further showed that in some animals there was a second supporting system running parallel to the retinal layers. Hence he advanced as a general fact relative to the structure of the retina that in the nuclear layer the supporting apparatus formed by the radial fibres is reinforced. This reinforcement is formed partly by the radial fibres themselves, by means of lateral offshoots decussating in different planes, and in part by special elements which are isolable and belong exclusively to the nuclear layer, such special elements being particularly evident in the retina of fishes. M. Sacchi gives the results of the observations of Rivolta, Golgi and Manfredi, Rampoldi, Dogiel, and Tafari. He has himself examined the retina of *Petromyzon*, *Esox lucius*, *Tinca italica*; *Bufo vulgaris*, *Rana esculenta*; *Tropidonotus natrix*, *Platydictylus mauritanus*, *Emys europæus*, *Testudo græca*; *Columba livia*; *Canis*, *Felix catus*, *Bos taurus*, *Equus caballus*, and *Cercopithecus*. He appears to have obtained the best results in the case of *Emys europæus*, *Testudo græca*, and *Petromyzon marinus*. The eyes were quickly removed after death and placed in a 0.30 solution of osmic acid, and then into one of potassium bichromate of nearly equal strength, and finally into a chloride of sodium solution, colored with eosine. In the *Emys*, the anterior layers of the retina up to the neurospongium are continuous with one another, and the feet of the rods and cones are seen to be connected with the nuclei situated at different heights in the external nuclear layer. The inter-granular layer is composed of bodies of elongated and usually more or less triangular form, resembling smooth muscular tissue, but giving off branches at various points of the surface which gradually become attenuated, and after dividing dichotomously, end in extremely fine processes. Their contents are homogeneous without granulations or striæ, and there is no trace of a nucleus. Their length varies between 65μ and 97μ , and their diameter between 3μ and 5μ . The successive layers of the retina in *Emys europæus* are, then, as follows: The rods and cones, presenting an external limb, a colored droplet, an intercalated portion and an accessory portion; an external limiting membrane; the outer granule layer or large visual cells of Dogiel with large basal cellules; the intergranule layer; the internal granule layer with the fibres of Müller and nerve cells situated alongside the neurospongium, constituting the spongioblasts of Müller; the neurospongium; the ganglion cell layer; and, lastly, the layer of optic nerve fibres.

The Frog Bladder as an Object for the Study of the Emigration of White Blood Cells.

Dr. T. MITCHELL PRUDDEN thus writes in the *Lancet* January 31, 1885.

The vigorous remonstrance of Mr. T. Wharton Jones, in a recent number of the *Lancet*, against the belief in so well-established a phenomenon as the emigration of the white blood cells through the walls of the capillaries and small veins, would seem almost comical to those accustomed to observe and demonstrate it, were it not for the evident earnestness and sincerity of the writer. It is not the purpose of this short article to add more testimony as to the occurrence of emigration, since the negative results of a single observer cannot be considered as seriously

militating against the actuality of a phenomenon attested to by hundreds of trained workers, who have carefully followed every stage of the process under the greatest variety of conditions. The writer wishes simply to direct attention anew to the bladder of the frog as an object in which every phase of immigration may be found with ease and certainty which do not belong to either of the more commonly employed objects—namely, the web, tongue, or mesentery, although it may be readily enough seen upon these. The writer's attention was called to the advantages of the frog's bladder years ago by Prof. Julius Arnold, of Heidelberg, by whom it was employed for some of his interesting and most important studies on the phenomena of inflammation.

The abdomen of a frog, which has received the minimal dose of curare requisite to secure immobility, is opened by a lateral incision through the abdominal parietes, a little posterior to the axillary line and extending from the inguinal fold up about half way to the axilla. A glass cannula, bent at about one centimetre from the tip to an angle of less than 45° , is connected by a small rubber tube with a Mariotte pressure bottle containing $\frac{1}{2}$ per cent. salt solution. The tube and cannula being filled with the salt solution, the tip of the cannula is introduced into the anus, carried into the cloaca, and then direct forward into the bladder. In this position it is held by a thread passed through the skin behind the anus and tied around a constriction in the shank of the cannula. The animal being placed on its back upon any frog-plate suitable for irrigation (one of the forms devised by Thoma and modified by Arnold for this purpose is most convenient), the salt solution is allowed to run in the bladder from the pressure bottle until the former is partially distended and pouches out at the side through the abdominal opening. The bladder being a bilobed organ, it is well to lay a small weight on the abdomen over the lobe which is not pouched out, in order that the salt solution may collect chiefly in the exposed lobe. By careful manipulation serious disturbances of the circulation may be almost entirely avoided. The bladder may be covered, and its superior surface slightly flattened by a thin cover-glass, beneath which a constant stream of salt solution may be carried through a fine-pointed cannula connected with a second pressure-bottle. Thus the exceedingly thin wall of the bladder, containing an abundance of venous and capillary bloodvessels, and bathed without and within by salt solution, may be brought into view with high power lenses (inversion lenses, are readily applied), and with no intervening tissue except the endothelium to interfere with the clearness of vision. Every detail of the process of emigration can here be seen with exquisite distinctness, and, moreover, which for demonstrative purposes is of great importance, emigration commences almost immediately upon the exposure of the organ, often within thirty minutes, and usually proceeds with a vigor and rapidity which are surprising to those who have been accustomed to work with the mesentery, tongue, or web.

Almost the sole drawback to the use of this organ for such studies is the slow movements which it is liable to make owing to the contraction of smooth muscle fibres in its walls. But if the animal be kept well under the influence of curare by sufficiently frequent very small doses of the drug, and if the bladder be kept well distended and the animal covered with moistened blotting-paper, this movement may be so far reduced as to permit of a continuous observation of any se-

lected point for hours. For purposes of instruction, the bladder possesses another important advantage, in that after the inflammatory phenomena have been sufficiently observed that animal may be killed, and the entire body, with the bladder distended to the same degree as when under observation, may be placed in Müller's fluid or diluted osmic acid, and every cell and tissue element hardened *in situ*. It is possible in this way not only to follow every phase of the process of emigration in a particular white blood cell or in a number of these, but also by careful mapping out the topography of the place under observation to find in the preserved and stained organ from which, after hardening, the portion under observation in the living condition has been cut, the particular cells whose evolutions have been followed during life. Under these favorable conditions, their minute structure may be compared with that of their fellows which still remain within the vessels or sticking in the walls, and also with the nuclei of the walls of the vessels themselves, from which they differ so materially in structure that the two could hardly be mistaken for one another by a competent microscopist. It appears to the writer that in the prevailing *furor* for bacterial investigations, the study of the phenomena of animal cell life is in danger of being neglected; and it is rather in the hope of contributing to the ease and certainty with which these studies may be pursued, than with the purpose of overcoming skepticism as to this actuality of the emigration of the white blood cells, that the above details are formulated.

Congenital Malformation of Large Intestine.

Mr. CHARLES ATKIN thus writes in the *Lancet*, January 31, 1885: Congenital absence of the large intestine is very rare, and we would draw attention to the interesting case recorded by Mr. Atkin. Operations in cases of malformation of the large bowel usually afford only temporary relief, the malformation being one amongst other evidences of immaturity, and the cause of the symptoms of obstruction being overlooked until the child is exhausted by vomiting, pain, rupture of the intestine, or the onset of peritonitis. Nevertheless, it is necessary to do what is possible, and the operation selected by Mr. Atkin—Littre's operation in the left loin—is that generally selected by the surgeon when it is not possible to relieve the patient by perineal incision.

A male infant, two days old, was brought to the infirmary not having passed any motion since its birth. On examination, a small depression was found at the usual situation of the anus, but it would not admit even a small probe. The abdomen was distended, hot, and redder than normal. In Mr. Favell's absence from town, Mr. Atkin explored the ischio-rectal region, but failed to meet with any bowel, so an oblique incision was made above and parallel to Poupart's ligament on the left side. Not finding the colon, a piece of small intestine which presented itself at the wound was stitched and opened in the usual manner. Meconium and flatus came freely from the wound. The child was evidently eased, and took some milk with a few drops of brandy without vomiting; after a quiet night, during which the temperature was never elevated, it began to sink, and died during the evening of the following day.

At the autopsy the whole colon and rectum was found to be rudimentary, being about the diameter of an ordinary quill; at first sight the tube seemed to

be a solid cord, and it was not till after removal of the whole alimentary canal that it was found that firm meconium could be pressed along with the aid of considerable force. The cæcum and vermiform appendix were differentiated from the main canal, but corresponded in degree of development to it. The narrowest part of the canal was four inches above the cæcum, being only one-sixteenth of an inch in diameter, and admitting only the point of a fine probe. An inch and a half above this was the place where the bowel was opened; the edges were found glued to the abdominal wall by adhesive lymph, with no extravasation into the cavity. There were no other deviations from the normal, no umbilical hernia, and no remains of the vitello-intestinal duct.

Remarks.—Though several instances of imperforation of the small intestine have been recorded with a normal colon and rectum, yet cases of such extensive malformation are surely uncommon. The parts seemed to have remained as they are in the early embryo, when, on the whole, the calibre of the large intestine is less than that of the small; and yet the arrest cannot have been very early, because the formation of the cæcum, which is supposed to take place about the third month, was well advanced. That Littre's incision seems the one by which the bowel is more readily reached is easily seen, and Amussat's operation would certainly have failed in this case, and necessitated a further exploration in the groin. Strange to say, another child was brought in the same evening, aged three days; similar measures were adopted, and it lived and thrived for twelve days, then gradually it began to fade, and died at the end of the fortnight. In this case the rectum ended half way down on the back of the bladder, the sigmoid flexure was found to have been opened, completely emptying the colon above, whilst below the rectum was immensely dilated with indurated meconium, forming a firm mass which filled the false pelvis and compressed the bladder. Probably this, by deranging digestion, caused the death of the child, as the artificial anus was perfect, patent, and without any signs of peritonitis. How to avoid such a condition is very difficult, but no doubt, if suspected, the best plan would be to insinuate a bent probe through the opening down the rectum and endeavor to make a perineal opening; but it would have failed in this case, for two reasons—first, it would have required more force than one would think justifiable to have pushed a probe through such solid material; and, secondly, the bowel ended too high up, quite out of reach. In a third infant with congenital malformation, under the care of Mr. A. Jackson (to whom and Mr. Favell I am indebted for the privilege of publishing these cases), the anus was normal, the imperforation being above; the child was only brought to the infirmary on the fifth day, the deficiency not having been found out till the night before. Such cases more than hint the necessity of examining new-born babies suffering from constipation with a probe.

Multiple Renal Calculi and Pyo-Nephrosis; Autopsy; Remarks.

On this interesting subject, Dr. MILLINGTON thus writes in the *Lancet*, February 7, 1885:

Calculi in the kidney usually give rise to so much pain and uneasiness during their formation that they are brought under the notice of the physician at an early period; pain referred to the region of the kidney, more or less constant in

character and aggravated by exertion, with occasional hæmaturia, general impairment of health, etc., causing the patient to seek relief before they have reached a large size. It is most unusual for them to attain to such a large size and number, causing so great an amount of destruction of renal substance as in this case, before producing symptoms of local disease.

Mary Anne R——, aged thirty-two, was admitted on November 8, 1884. She had been married twelve years and had had four healthy children, who were all living. Her mother was living and strong, but her father died in an asylum. The patient says she has been ailing for a year, gradually losing appetite and wasting, but has never had any pain till the last week. Three weeks ago she had an attack of vomiting, and about ten days ago noticed a swelling in her left side. On admission she was found to be very emaciated, weighing 6 st. 3 lb., and weak. Her skin had a pale and slightly earthy tint, it was also dry and harsh, with long downy hairs on the back. Her tongue was dry and slightly furred, her appetite very bad, she did not vomit, and the bowels were open. At times she had attacks of pain in the abdomen. Upon examination a large rounded tumor was noticed in the left lumbar region, extending downwards and inwards, and measuring about 7 in. in length by 4 in. in breadth. It had a smooth soft feel, but no fluctuation could be felt. Something could be traced running over it from above downwards, which moved about and appeared to be the descending colon, but it did not alter the dulness of the tumor. The lower border of the swelling reached $1\frac{1}{2}$ in. above the left anterior superior iliac spine, and extended across to the middle line. Above, the dulness extended to the seventh rib. In the right lumbar region there was another tumor similarly placed, measuring 5 in. in length and 3 in. in width, and extending obliquely downwards and inwards; but instead of the soft smooth feel of the other, it had a very irregular form and feel of stony hardness. It had a sharply-rounded border, under which the fingers could be inserted. An irregular upper edge could be felt, and the tumor seemed to be entirely distinct from the liver. They were both fixed and not at all tender or painful, and over both absolute dulness was obtained. When the back was examined, on both sides there was absolute dulness reaching from the spine to the tumors in front. Vaginal examination showed that the uterus was normal and the pelvis free from disease. The chest was in a fairly healthy condition, but the pulse was very weak and small, and the cardiac sounds rather indistinct. The urine had a specific gravity of 1025; it was pale, but turbid, with a stringy deposit. It contained about one-eighth of pus, and, after boiling, about five-twelfths of albumen; but nothing but pus and epithelium cells could be detected microscopically.

During the first week that the patient was in the hospital the left tumor increased rapidly in size, and became distinctly fluctuating, and the question of aspiration was being discussed when severe paroxysms of pain set in, and lasted several hours, the patient being in agony until relieved by opiates. After the pain had become easier, it was found that the tumor on the left side was much smaller than when the patient was admitted, and it continued so to lessen that no prominence could be seen. At the same time the pus in the urine increased to one-half, and for some days large quantities were passed in this way. The patient was evidently getting weaker, and died from syncope on November 23d.

Autopsy.—When the abdomen was opened nothing abnormal was to be seen until the intestines were pushed back, when in the place of each kidney a large swelling was noticed. On closer examination, the one on the left side was found to be 8 in. long by 4 in. wide and 3 in. deep, and the renal vessels and ureter could be traced entering it, and the descending colon passing over it. When opened, it was found to be a thin-walled sac full of pus, the walls nowhere exceeding $\frac{1}{8}$ in. in thickness, and for the most part no thicker than the skin. After the pus had been removed the organ weighed nearly 10 oz. Its interior was divided by septa into four conical sacs, all communicating with each other at their apices, and roughly representing the pyramids. In two of these sacs there were calculi from $\frac{1}{2}$ in. to $\frac{3}{4}$ in. in diameter, whilst in the pulvis and commencement of the ureter there was another calculus, shaped like a very elongated cone, which completely blocked the lumen of the ureter when pushed down. No trace of ordinary kidney substance could be found. The right kidney was also much enlarged, measuring 7 in. in length by $4\frac{1}{2}$ in. in breadth, by 3 in. in depth. Its hard irregular feel at once indicated that it was full of large calculi. It weighed, with the calculi, $18\frac{1}{2}$ oz. When opened there was found to be a small, thin capsule of healthy kidney substance surrounding five large calculi; these were rounded and irregular, with prominent bosses, and were so closely embedded in the renal substance that this had to be torn in some places to show them; the largest measured 5 in. in length and $2\frac{1}{2}$ in. in its greatest diameter, and had three outstanding processes. The next was $3\frac{1}{4}$ in. long and $2\frac{1}{2}$ in. broad, and the other three were almost as large. In the pelvis another was found 2 in. long and $\frac{1}{2}$ in. in diameter, being horn-shaped, and filling up the pelvis, and beginning of the ureter. The calculi on chemical examination were found to consist of carbonate of lime, mixed with a little fibrinous material; the lymphatic glands on both sides were much enlarged; the other organs both in the abdomen and thorax were healthy.

Dr. DINGLEY.—The chief interest of this case lies in the fact that the physical signs and clinical characteristics were elucidated by the autopsy. The soft fluctuating tumor on the left side with pus in the urine pointed strongly to either pyonephrosis or perinephritic abscess, whilst the paroxysms of pain followed by diminution in the size of the tumor, accompanied by a corresponding increase in the amount of pus in the urine, pointed almost conclusively to the presence of a calculus. The diagnosis of the condition in the other kidney was not so clear, as the calculi were so embedded in the kidney substance that no grating or movement could be obtained; the position of the tumor, its fixity, and the presence of calculi in the other kidney were the most important indications. The most remarkable feature of the case is that with such an advanced morbid condition and calculi in both pelves the patient should, with the exception of the attack noted above, have escaped without any pain, and should only have her attention aroused by noticing the tumor. It is also interesting as shown with what a small amount of secreting renal substance life can be maintained. Of course, in such an advanced state, active treatment was out of the question; but had the case come under observation earlier, it would be worthy of consideration as to whether, by a lumbar incision and free drainage, the patient's life might not have been prolonged.

II. PHYSICS, BOTANY, CHEMISTRY AND TOXICOLOGY.

The Action of Copper on the System.

The *London Med. Record* says: Salts of copper in doses varying from half a gramme to three grammes were administered for some time to sheep, and it was noted that albumen, bile, and blood appeared in the urine, and that a general weakness and flaccidity of the muscles set in, as also a loss of appetite; but no alteration was visible in the respiration, or in the microscopic appearances of the blood-corpuscles, or of the striated muscle-fibres. The copper was discharged chiefly by the bile, and in a less degree by the urine. When long administered, and particularly in small doses, the copper tends to accumulate in the liver, an organ which holds and retains it with great avidity. The pancreas also exhibits a great affinity for copper salts. Deposits of copper in the kidneys and in the nervous and muscular systems only occur to a slight extent. It is the opinion of many that copper should not be regarded as a poisonous metal, unless given in large quantities. The experiments of MM. Houlès and De Pietra Santa (*Acad. des Sciences*) tend to prove that copper is not a cumulative poison like lead, for no special trade disease has been noted in the case of workmen who passed twelve hours a day in the midst of an atmosphere of copper oxide; neither did they appear to enjoy any special immunity from infectious diseases.

A Case of Opium-Poisoning Successfully Treated by Belladonna.

In the *Medical Record*, January 31, 1885, DR. DAVID McFALK, of Gouverneur, N. Y., relates the following case: A child, eighteen months old, swallowed some laudanum (the exact amount could not be ascertained), and when seen five hours later was in a state of profound stupor, bathed in a clammy perspiration, with relaxed muscles, cold extremities, and pupils contracted to a pin-point. The respiration was stertorous, very slow, not exceeding four or five to the minute, and frequently interrupted. The mother had given mustard, alum, and other domestic remedies, without producing emesis. One drop of the fluid extract of belladonna was at once injected hypodermically, and repeated every fifteen minutes until three doses had been given, respiration being in the meantime artificially maintained. An improvement was evident after the third dose. The respirations increased in frequency, and the intermissions occurred at longer intervals, and the pupils were dilated somewhat. At the expiration of half an hour another drop of the fluid extract was administered hypodermically, and in a short time the pupils became dilated to their normal size, and the respirations

increased to eighteen per minute. The child continued to improve, and seemed to be as well as usual the following day. It could not be learned how much laudanum had been taken, but there seems to be little room for doubt that there would have been a fatal termination but for the timely administration of the belladonna in doses just sufficient to antagonize the effects of the opium without producing the symptoms of belladonna-poisoning.

Poisoning by Bisulphide of Carbon and Chloride of Calcium.

Before the Ophthalmological Society of the United Kingdom (*London Med. Times*, Jan'y 24, 1885), Mr. ADAMS FROST read a report on this subject, signed by himself, Mr. Gunn, and Mr. Nettleship. The affection, they said, had long been recognized in France, and had been well described by Dr. A. Delpach, who grouped the symptoms into two stages, namely, a stage of excitement and a stage of depression. The affection had also been described in this country (England) by Dr. Alexander Bruce. It appeared that there were only a very few firms engaged in the manufacture of india-rubber by Parkes' process, which was admittedly the one most liable to be followed by symptoms of ill-health. The reporters referred in some detail to the various steps of the process, which appeared to involve the greatest amount of risk, and pointed out the methods by which they believed that, in some degree, these dangers might be obviated. Out of the thirty-three recorded cases, in twenty-four there was some affection of vision. The prognosis appeared to be tolerably favorable, if the patient were able to give up his work at an early period after the first appearance of the symptoms. They were unable to draw any definite conclusions as to the length of time of exposure to the noxious influence necessary for the production of the symptoms; slight symptoms, however, were often noticed a few days after commencing the work. The amblyopia was never an isolated symptom, and never occurred without well-marked general toxic symptoms. In most of the cases which were seen by oculists, decided changes were seen at the optic discs; in the earlier stages, haziness and other signs of chronic neuritis; in the latter stages some degree of atrophy or pallor. In some, central defect of the field was found, but this had not been carefully examined, except in a very few instances. Several patients were noted as smokers, and a good many were stated to have been particularly temperate.

Cystin and Cystein.

The *London Med. Record* says that E. BAUMANN (*Zeitschr. für Physiol. Chemie*, Band viii., Heft 4) says that the mercapturic acids that appear in the animal organism after the introduction of chlorine-, bromine-, or iodine-benzol, or of certain other aromatic substances, when boiled with mineral acids are resolved into acetic acid and the bodies of weakly basic properties, which stand in the closest relation to cystin. Kultz's recent analyses of cystin give to it the formula $C_4H_6NSO_2$, instead of $C_4H_7NSO_2$ or $C_4H_7NSO_3$. If cystin be dissolved in hydrochloric acid and some tinfoil then introduced, a solution of the latter occurs, and a reduction-product of the cystin, a new basic body, cystein, is obtained. After the evolution of gas has ceased, the solution is diluted, treated with hydric sulphide, and the filtrate evaporated to dryness. The hydrochloric acid salt of the new base is thus obtained. An alcoholic solution of this, carefully neutralized

with ammonia, gives a fine-grained crystalline precipitate, which last is easily soluble in water, in ammonia, and in acetic or the mineral acids. But only in acid solutions or in the dry state is it permanent; for watery solutions soon give on standing in the air crystals of insoluble cystin, although the same solutions, if air be excluded, will remain unaltered. The alkaline solutions also quickly change. But this base is especially characterized by its behavior towards ferric chloride, with which its watery solution gives a beautiful indigo blue coloration, which, however, rapidly disappears, cystin being deposited in its characteristic crystals. The new base, which Baumann names cystein, can easily be obtained if the alcoholic solution of the hydrochlorate salt be exactly neutralized with ammonia, and the precipitate, after being washed with alcohol, quickly dried *in vacuo*. The white crystalline powder obtained differs from cystin in its crystalline form, and in its solubility in water and in acetic acid; and it apparently has the composition $C_3H_7NSO_2$, formally ascribed to cystin itself. Its polarizing powers also are much less than those of cystin.

Poisoning by Belladonna and Aconite.

Dr. J. B. RICHARDSON thus writes in the *Brit. Med. Jour.*, February 14, 1885: I was, some weeks ago, sent for to a patient aged 63, who had swallowed his liniment instead of his medicine. It was composed of one ounce of belladonna-liniment and one ounce of aconite-liniment mixed. He had for nine or ten years been suffering from paralysis agitans. On the day in question, he had fed at 12 o'clock, and he took the liniment at 2:30. I arrived about 3. He was then nearly insensible; pulse 110, feeble; temperature normal. The pupils were widely dilated, and did not answer to light. His breathing was difficult, and I had great difficulty in getting him to swallow an emetic of sulphate of zinc in warm water. I used the stomach-pump, which acted well. He had been sick before I arrived, but had not brought up much. I then began giving brandy and strong tea. At about 3:30, he had become entirely insensible; the breathing was stertorous; the eyes widely dilated. the pulse was very quick, and gradually left the wrist; the extremities became cold; and the temperature was 96° . There was at this time a distinct interval between one inspiration and the next. The teeth were clenched. I applied a mustard poultice to the heart, and a hot bottle to the feet, introduced a spoon between the teeth, and gave a teaspoonful of brandy and strong tea every three or four minutes. At about 4 o'clock, the pulse gradually returned; the temperature rose to 97.6° ; the breathing became more frequent, and the extremities somewhat warmer. At 5 o'clock, the temperature was normal; pulse 120; the breathing fairly easy. He was still insensible, and the pupils were as before. I ordered aromatic spirit of ammonia and spirit of sulphuric ether, fifteen minims of each, to be given every half hour; at 7 o'clock the pulse was 120, temperature 100° ; the pupils were as before. He appeared more sensible, had taken some milk, but had not retained it. I gave him a wineglass of equal parts of milk and lime-water, which he retained. The medicine was ordered to be repeated every three hours. At 10 next morning, he was sensible; pulse 96; temperature 99.8° ; breathing easy; but the pupils were still dilated. He complained of slight feeling of soreness in the stomach, but had retained a pint and a half of milk and lime-water. I ordered the same diet

to be continued; the medicine every four hours. At 5 in the afternoon, he seemed quite himself, conversed with ease on his escape and the mistake he had made. The pulse was strong and regular, 88; the temperature 99°. He had taken a quart of milk and lime-water. The paralysis agitans, which had been in abeyance, had returned. The pupils, however, were still dilated.

At 12:30 A. M., I was sent for. I found him with pulse 130, temperature 104°, quite insensible, breathing with great difficulty; and he died in less than an hour. His wife tells me he was very well until about 10:30, when she noticed a change. She tells me that she used the liniment once, but half a teaspoonful was quite as much as she took out of the bottle. He thus took nearly one ounce of the root of aconite, and the same of belladonna. The druggist who made up the prescription assures me the strength was correct.

On the Formation of Tails in Human Beings.

The *Brit. Med. Jour.*, January 31, 1885, tells us that Professor VIRCHOW delivered an address at a recent meeting of the Berlin Medical Society, on the formation of tails in human beings, an account of which appeared in the *Berliner Klinische Wochenschrift*. He maintained that, in treating this question, we have to deal with three different things; first, complete tails, of which nothing of importance has been said in recent times; secondly, the usual form of soft imperfect or incomplete tails; and, finally, the simple skin-appendages resembling tails, which, properly speaking, have no connection whatever with tails. Professor Virchow said that, some time ago, he was fortunate enough to obtain a specimen which was of no small interest in discussing the question of the appearance of tails in human beings. It was a specimen that had long been in the University Museum, but had been hidden behind other things, so that nobody knew of its existence. When all the pathological specimens were being moved into the Pathological Institute, this was found.

This question, which has attracted much attention in recent times, is of a special interest, not only from a pathological point of view, but also as connected with the general theory of Darwinism. For, when one sees a human being with a tail, the thought revives that this is a return to animal shapes, and it appears a new reason for accepting Darwin's laws of development. The old view, already expressed by Johann Friedreich Meckel, has been everywhere confirmed by recent investigations; namely, that the human embryo does indeed originally possess a projecting end of the spinal cord resembling a tail, so that there is in reality a certain similarity to animals in the early stage of embryonic life.

The other question, whether, under similar circumstances as with animals, tails exist in the thoroughly developed human being, is just as certainly proved. Bartels has given a whole series of such cases, and has shown with no small amount of probability that there are certain nations amongst whom these cases occur very frequently. This idea had previously occurred to a German, Dr. Ornstein, when Surgeon-General of the Greek army. He noticed certain peculiarities of very common occurrence amongst the army recruits, which led him to suppose that the peculiarities ascribed to satyrs and other wood-divinities by ancient sculptors were no invention, but based on a real, though perhaps somewhat exaggerated, phenomenon amongst the Greek nation. The peculiarities

that struck him were, thick patches of hair, real protuberances, and finally, even apparent prolongations of the spinal cord and the lower extremity of the back.

Without dealing with the question in detail, Professor Virchow pointed out the difficulties connected with its explanation; for example, when one sees that, between the formation of hair on the region of the rump and the caudal protuberance of this region, a *tertium quid*, something between the two, occurs, namely, hairy tails, it is very easy to infer, as Ornstein says, that the whole is a connected system, and that the formations of hair are to be looked upon as a relic of an original caudal formation.

The question would be much clearer, if it could be shown with anything like certainty that, in one or the other kind of these formations, the vertebral column, as such, appeared as an element, as a real supporter of the whole formation. The data on this point cannot be relied upon, hence the difficulty. But there are cases of men in whom the tail appears as a real prolongation of the axis, and therefore as proceeding from the vertebral column; but the majority of these prolongations are "soft tails," containing neither bone nor cartilage, resembling a *cauda suilla*, as older writers called them, and we may class them as "imperfect tails;" for though they are not real tails, they represent the equivalent of a tail. There is also this difficulty; that skin-appendages, resembling tails, are found on all parts of the bodies of monstrosities, for example, in the case mentioned by Elsholz of Cölln-on-the-Spree (the old name for Berlin) in 1669. It was the case of a girl with such an appendage on the upper part of the thigh, and with one at the regular place of a tail. It could be said that the appendage on the thigh is in the form of a tail, but it is not one; therefore, the other appendage is also no tail. But, said Dr. Virchow, in the specimen before us to-day (a case of a man), one appendage is between the shoulders, the other where a tail naturally occurs. The upper appendage is clearly only a skin-appendage, having nothing whatever to do with the vertebra; whereas the lower one proceeds directly from the coccyx, and is in immediate connection with it. Professor Virchow said he would not explain how it was that these two, a real and a false tail, occurred together; but from his experience of fetal misformations, he concluded that these skin-protuberances are, as a rule, due to adhesive processes formed in the early stage of embryonic life, and that, in the case mentioned, the upper appendage is one of these. He then drew attention to a case previously published by him in the *Zeitschrift für Ethnologie*, 1875 (vol. vii, page 280), concerning the formations in the region of the rump surrounded by hair, mentioned by Ornstein. Cases of this kind, Professor Virchow added, were seldom described in Germany, and such pronounced formations of tails as those mentioned are rarely to be seen in collections.

Peptonuria.

The *London Med. Record* says that VON JAKSCH found pepton in the urine in 76 out of 354 cases examined, in 72 of which there was inflammation or accumulation of pus, in 3 scurvy, and in 1 phosphorus poisoning. With Hofmeister, he thinks that the pepton is contained in the pus-corpuscles, and not in the serum. Where no pus is present, he believes that, from the increase of the white corpuscles, as well as of the products of their destruction in the blood, the pepton is set free from these corpuscles and excreted by the kidneys. It is possible

that the appearance and course of peptonuria may be of use in determining the beginning and ending of the absorption of inflammatory products.

Duclaux on Milk.—According to E. Duclaux (*Compt. Rend.* Tome xcvi) the albuminoid matter in milk may be divided into colloidal casein, casein in suspension, and soluble casein. In a sample of milk these results were obtained :

	Suspended.	Dissolved.
Fat	3.82	—
Sugar	—	4.98
Casein	3.31	0.84
Calcic phosphate	0.22	0.14
Inorganic salts	—	0.89

The soluble casein is rarely present in such a high proportion, however. This soluble casein is only slightly affected by the action of heat, but the other two varieties are coagulated. Slight acidity of the milk causes some of the colloidal casein to pass into the suspended form, while slight alkalinity has a converse effect. The proportion of soluble casein in normal milk remains approximately constant, seeming also not to be affected by the nature of the milk, and being sensibly the same in the milk of cows, goats, asses, and women. Hammarsten supposed that, when rennet acted on milk, the casein was split into two new albuminoids, one insoluble in the presence of calcic phosphate, and carrying down with it a portion of this phosphate, and the other, called whey-protein or lacto-protein remaining in solution. The author obtained the following results on treating milk with rennet free from diastatic "casease," the access of bacteria being prevented as far as possible.

	Suspended.		Dissolved.	
	Milk.	Whey.	Milk.	Whey.
Fat	4.30	0.85	—	—
Sugar	—	—	5.37	5.73
Casein	3.53	0.46	0.37	0.36
Calcic phosphate	0.23	—	0.17	0.17
Inorganic salts	—	—	0.40	0.43
	8.06	1.31	6.31	6.69

The above, it will be seen, does not confirm Hammersten's supposition, since the amount of soluble casein is not increased, and the calcic phosphate takes no active part in the formation of the curd. From the table it further appears that 0.46 of the colloidal casein has not solidified; and that the whole of the coagulable casein is never precipitated. Milk the author regards as a system in which the three varieties of casein are in equilibrium; this, however, being disturbed by the addition of inorganic salts and ferments, etc. Its coagulation would, therefore, appear to be a problem that cannot at present be solved.

Poisoning by Coke Fumes.

The *Lancet*, February 14, 1885, tells us that a case, which will probably become historical, has recently been investigated before the district coroner at Pendleton. It is one which introduces many points of interest both to the public and the medical jurist. On January 15th, James Malone, aged sixty-one, his wife, Catharine, aged fifty-one, and their married daughter, Honora Hill, aged thirty-three, retired to rest at 9.30 p. m. According to the evidence given by Hill, she awoke at about half-past four o'clock on the morning of the 16th and found the body of her dead father stretched partly over her. With difficulty she attracted the attention of her mother, who, when told of her husband's death, replied, "I know it: I am dying too; I am suffocated," and she shortly afterwards expired. Hill stated that she tried to obtain relief, but for many hours was unable to extricate herself from beneath her father's legs, and in vain called and knocked for assistance. Between 4 p. m. and 5 p. m. she managed to leave the house, and, going to a chandler's shop, remarked that her father and mother were dead. From the first she asserted that the room was full of smoke. Dr. J. S. Bury, who made the post-mortem examinations, found some rather severe bruises on different parts of the body of James Malone; but the only one having any important bearing on the case was situated on the chest, and beneath this bruise the ninth, tenth, and eleventh ribs were fractured. Dr. Bury was of opinion that, from the supposed absence of repair of the broken bones, the injury had been inflicted quite recently, not more than two days. Struck with the freedom of the lungs from congestion, and with the absence of other usual signs of asphyxial death, he could come to no definite conclusion as to how the deceased persons lost their lives. Dr. Bury was undoubtedly actuated by a desire to serve inflexibly the ends of justice. At the same time, it is equally clear that he inclined to the belief that there might have been foul play, for we find him saying *à propos* of a suggestion of death from asphxia, "I should like to know why the man vomited." The positive evidence of injury was present in his mind, and although he freely allowed that such injury was in itself inadequate to cause death, it may still have seemed an indication of the probability of other modes of violence having been resorted to. It was a pity that he was not called after the witness Hill, for then he would have had, to say the least, a very strong suggestion as to what had really happened. The woman's account of what transpired, and her description of her own sensations, form a striking picture of a comparatively rare but deadly form of poisoning.

Up to the time of adjournment, the theory of poisoning by charcoal fumes received little credit, unsupported as it was by scientific testimony. Before the court reassembled, Dr. Cullingworth was commissioned to conduct a further inquiry; and now a flood of light was let in upon the darkness and confusion. The ribs were shown to have been fractured at least a fortnight, as, although not united, they bore manifest signs of repair. Then came the analysis of the blood of the deceased, with its revelation that carbonic oxide gas had been absorbed in considerable quantity; and, lastly, the stomach presented no trace of liquid or solid narcotic poison. By this time no fact remained which was inconsistent with the theory of death by misadventure. It was proved that the refuse of coke had recently been burned in the grate, and that the chimney was blocked with

pieces of wood fixed there by previous residents in the house. So far from vomiting being a rare symptom, it is asserted by Taylor and Stevenson to be of usual occurrence after inhalation of carbonic oxide. Then, *refuse coke* contains sulphur and unstable products of incomplete combustion, and it gives off sulphurous acid, sulphuretted hydrogen, and light and heavy carburetted hydrogen gases in quantity, when burned in a close room. The combined action of these gases would explain why, although carbonic oxide was discovered in the blood, the skin and organs did not present the vermilion-red color ordinarily found after poisoning by *charcoal fumes*. Air mixed with from 5 to 6 per cent. of carbonic oxide gas quickly destroys life, and it is more than likely that before the Malones expired this proportion was approximated. The predominant symptoms are "headache, pulsation in the temples, nausea, *vomiting*, prostration, insensibility and coma." It is a case of pure narcotic poisoning. The oxide is believed to act by preventing the arterial blood becoming venous, just the reverse of carbonic acid. The advanced age of the deceased, their bronchial affections and other infirmities, are amply sufficient to explain why they succumbed whilst their daughter recovered. Some years ago four seamen were taken in a state of stupor to Guy's Hospital. They had been shut up on board ship in a confined place heated with coke, and the chimney had been closed; circumstances exactly parallel to those observed in the "Pendleton mystery," now under discussion. Of these four, two died, aged respectively fifteen and forty; the other two, aged seventeen and twenty-one, recovered. In one of the fatal cases the lungs were congested, in the other not.

Levulose in Diabetic Urine.

A foreign exchange says: The appearance of left-handed glucose in the urine is very rare. Gorup-Besancz mentions that diabetic urine occasionally contains a non-crystallizing sugar with left-handed rotation, and Zimmer reports a case, observed also by Czapeck, in which, besides grape sugar, there was a considerable quantity of levulose. The specific gravity of the urine in this case was 10.55; it contained 9.8 per cent. of sugar by Fehling's method, but polarization indicated 2.2 per cent. of left-handed sugar.

The present case, described by Dr. J. Seegen (*Centralbl. für die Med. Wochensch.*, No. 43, 1884), is the first out of a thousand cases of diabetes treated by himself, in which the author had an opportunity of observing levulose in the urine. Certainly not all these cases had been examined by polarization (and the combination of this method with volumetric analysis is necessary to establish the presence of levulose), but a sufficient number had been thus examined to show that levulose is a rare constituent of the urine.

The patient was a woman, aged 46, whose mother had suffered from diabetes mellitus. She herself had always enjoyed good health, but was of a nervous disposition. Three years ago she complained of languor and dryness of the mouth. Sugar was found in the urine, and an appropriate diet was instituted, chiefly flesh meat, with green vegetables, and very little bread. Since then she remained in good health, and no further diabetic symptoms appeared. Her physician pronounced the case to be one of intermittent diabetes, as sugar was only found at times.

Such "intermittent" cases being merely rendered so by the altered diet, according to the author's experience, this case was carefully observed. More bread was given on the first day. The urine, when examined in a Soleil-Ventzke polarizing apparatus, rotated to the left, indicating 0.9 per cent., reckoned as a grape-sugar, and Fehling's solution was copiously reduced. Careful analysis revealed neither albumen nor hemialbumose, nor peptone, and it was extremely probable that the left-handed rotation was due to levulose. This was proved as follows. More bread was allowed to the patient, and the urine passed a few hours after dinner was examined. It was clear, and without a trace of albumen, and the following tests were applied :

a. Ten cubic centimètres were diluted with 90 per cent. water (100 cubic centimètres). 20 cubic centimètres of this diluted urine were required to reduce 2 cubic centimètres of Fehling's solution (of which one 1 cubic centimètre = 10 milligrammes of grape-sugar). This indicated 1 per cent. of levulose or 1.08 per cent. of grape-sugar, their reducing powers being as 92.4 to 100.

b. In the polarizing apparatus, 1.8 per cent. of left-handed sugar was indicated.

c. Five cubic centimètres of urine were fermented with yeast and a drop of vinegar in a eudiometer-tube over mercury, and after three days the carbonic acid developed 1.05 per cent. of sugar.

d. Another portion was fermented for three days, and afterwards filtered; it then only faintly reduced the copper solution, and did not rotate the polarized ray.

The substance was thus undoubtedly levulose. The same results occurred two days afterwards. Amylaceous foods were then freely supplied for six days, at the end of which the urine was again examined. The morning urine did not rotate polarized light, and only faintly reduced the copper solution. The urine passed four hours after dinner gave the following sugar :

a. By polarization	= 3.2 per cent.
b. Volumetrically	= 1.69 " (=1.84 levulose).
c. By fermentation	} = 1.5 "
after 24 hours	
By fermentation	} = 1.64 "
after 4 days	
By fermentation	} = 1.83 "
after 9 days	
By fermentation	} = 2.03 "
after 15 days	

Some of the urine was sent to Prof. E. Ludwig's laboratory in Vienna, and there Dr. Mauthner confirmed the above. The author sums up as follows :

1. The urine contained a left-handed sugar, which could only be levulose, because the fermented urine showed no left-handed rotation.

2. The urine contained only left-handed sugar; there was no grape-sugar present, because the amount indicated by rotation agreed with that obtained by analysis. The specific rotation was -93° to -96° in all the experiments, at a temperature of 18° C. The specific rotation of levulose at $17^{\circ}.5$ C. has been given by Yuchsmied as -97.1 , a result quite near enough. The sugar, estimated from fermentation, agreed with the above, after a few days. But small quantities of carbonic acid continued to be disengaged for fifteen days; this might be due to other matters in the urine, or even to decomposition of the yeast itself.

3. The excretion of levulose was caused and increased by amylaceous food, just as grape-sugar is in the lighter forms of diabetes.

4. No cause can be assigned for the formation of levulose, and further observations are required on this point.

Peptones and their Detection in Urine.

Dr. WILLIAM THOMSON thus writes in the *Med. Chronicle*, Feb'y, 1885: Chemically considered the peptones produced from the various proteids, such as albumen, fibrin, gelatine, gluten, or casein, by the action of the digestive ferment (pepsin) on them are as nearly as possible the same; and it is probable that, if peptone could be prepared with sufficient purity, by being separated from various matters both organic and mineral with which it is more or less associated even when obtained in its purest condition, more concordant results by ultimate chemical analysis might be obtained. According to the analyses of several chemists the following may be taken roughly as the composition of peptones: 100 parts contain carbon 50, hydrogen 7, nitrogen 17, oxygen 25, with about 1 per cent. of sulphur. Some chemists have failed to recognize the presence of the last-named element, if it be present in all peptones.

Peptones are closely allied to the proteids from which they are prepared, it being held by some chemists that an alteration of the molecular structure of the proteid alone takes place by the action of the gastric juices on it, whilst others hold that on digestion the albumen and other proteids combine with water and become hydrated compounds.

It is certain, however, that although the peptones contain about the same proportions of the different elements as the proteids, they differ very materially from them in their physical and chemical properties; for instance, whilst albumen turns the plane of polarized light to the right, the peptone prepared from it turns the plane of polarized light to the left; and, whilst albumen is coagulated by heat, peptone is not.

Peptone is a white, inodorous, slightly bitter, amorphous powder, soluble in water. Its solubility is much increased by the presence in the water of a very small quantity of an acid or an alkali. The presence of a small quantity of common salt also aids its solubility, whilst a large quantity precipitates it from solution.

Peptone exists in the stomach always in about the same proportion whether immediately after or long after taking food. It is also formed by the pancreatic fluid, and can be found in the lining integument of the intestines, but it is never present in the blood. When it is injected into the blood, it produces poisonous effects, and becomes eliminated from it in the urine. Hofmeister believes that either the peptone enters into a chemical combination with the white-blood corpuscles, or that it is transformed into other compounds before it enters the blood.

According to Maly Poehl, it is present in the liquid of ovarian cysts. Maixner, Hofmeister, and Henninger have demonstrated the presence of this body in pus. It is also present in rather large proportion in cancerous masses, as proved by Henninger and Poehl.

It does not exist or exists as a mere trace in normal urine, but in certain pathological conditions it is present in urine in considerable proportions; for example,

Gerhardt found it in the urine of patients suffering from diphtheria, typhus, and pneumonia.

The most reliable test for its presence in urine is, perhaps, that given by Hofmeister (*Zeitschr. f. Physiol. Chem.*, V., 67-78). The urine is first boiled with a few drops of solution of acetate of lead to remove albumen, and so-called soluble albumen or propeptones, or other bodies intermediate between the proteid and the true peptone in the conversion of the one into the other; any precipitate which forms is filtered off, and to the clear filtrate one-fifth its volume of acetic acid is added, and then a small quantity of a solution of sodium phospho-tungstate previously made acid with acetic acid. Any cloudiness or precipitate indicates the presence of peptone. This test may be rendered still more characteristic by filtering off the phospho-tungstate precipitate, which is then washed from the filter with a little hot caustic baryta water into a clean test tube; the baryta decomposes the precipitate, and the phospho-tungstic acid combines with the baryta, forming another insoluble compound, whilst the peptone, being liberated, remains in solution. Carbonic dioxide is passed through the liquid, which is then heated to expel the excess of carbonic acid, and filtered from the barium carbonate precipitate. The clear liquid is then tested by the so-called biuret test. This consists in adding a drop or two of a solution of copper sulphate, and then a few drops of caustic soda; in presence of peptone a red-violet (rose) coloration is produced. This coloration may also be used for the quantitative determination of peptone by using standard solutions of copper sulphate in caustic soda on the one hand, and of peptone of known strength on the other.

A simple method, but less trustworthy than the above, was devised by Senator (*Zeitschr. Anal. Chem.*, VII., 474). He removes albumen, if present, by heating the urine with or without acetic acid, filters if necessary, and mixes the cold filtrate with three times its volume of alcohol. Peptone, if present, being insoluble in alcohol, is separated as a yellow precipitate, which on filtering is colored deeply yellow by strong nitric acid. Or the precipitate may be dissolved from the filter with a little water, and the copper sulphate and soda test (which was originally employed for the detection of biuret), employed as above described.

Another method which I think will be found less convenient or satisfactory than either of the two previous ones was devised by Petri (*Zeit. Phys. Chem.*, VIII., 298), and is based on the fact that an orange-yellow to an orange-red color is produced by adding an alkaline (potash or soda) solution of diazobenzene sulphonic acid to a solution containing peptone or albuminous bodies. The same substance gives a beautiful magenta-red reaction when added to an alkaline solution of grape sugar or to the aldehydes of the fatty series, on standing from ten to twenty minutes. The intensity of the color depends very much on the relative proportions of the reagent; an excess either way causes the color to disappear.

Diazobenzene sulphonic acid is a very unstable body, and must be prepared immediately before using. It may be produced by suspending one part of sulphanic acid in twenty parts of water, then adding two parts of strong hydrochloric acid solution and three-fourths of a part of nitrite of soda; the whole should be stirred on adding the nitrite of soda.

NOTE.—The reagents mentioned above may be obtained from Messrs. Mottershead & Co., of Manchester.

III. MATERIA MEDICA AND THERAPEUTICS.

Calomel in Acute Lobar Pneumonia.

The *Medical Record*, February 21, 1885, says that Dr. H. B. ROBINSON, of Blount Springs, Alabama, states that in the past thirty years he has treated pneumonia with mercury, opium, ipecac, quinine, blistering, and occasionally bleeding. He has lost but four cases during his practice. A strong young negro, suffering from the disease, grew progressively worse, and Dr. R. had about given him up when he concluded to dress a blister which he had drawn on his back with mercurial ointment. He did so, and next morning, to his surprise, the patient was much better, and finally recovered. A child, five years of age, nearly moribund with pneumonia (lobular?), had a blister drawn on his back. This was dressed with bismuth subnitrate, and next day the child began to recover. These cases simply show that even bad cases of pneumonia may suddenly take a favorable turn. It is a serious question if the treatment had anything to do with the favorable change in the case.

Nitro-Glycerine in Contracted Kidney.

In the *Berlin Klin. Wochenschrift* (No. 3, 1885), Professor ROSEBACH, of Jena, opposes the view that the cardiac hypertrophy and high blood-pressure met with in contracted kidney are compensatory, and that they account for the increased urine; for nitro-glycerine (like amyl nitrite and sodium nitrite) lowers the pressure till the pulse is of normal, or even subnormal, softness, and yet the urine is not diminished in quantity, while the patients are much improved generally. Amyl and sodium nitrites act too rashly; nitro-glycerine, on the other hand, is perfectly tolerated after a few days of slight passing headache after each dose. Nitro-glycerine is declared to be "an excellent means for preserving life, and for combatting severe symptoms" (œdema, asthma, retinitis, etc.). The dose is from half a milligramme to a milligramme ($\frac{1}{12}$ to $\frac{1}{6}$ of a grain, nearly); and about ten to fifteen doses a day are given. It is thus conveniently prepared. A weighed quantity is dissolved in ether, and the solution is mixed with a mixture of two parts of chocolate-powder and one of gum acacia. After allowing the ether to evaporate, the mixture is softened with water, and made into tablets containing the dose desired.

The Value of Iron as a Medicine.

The Paris correspondent of the *Brit. Med. Jour.*, writes as follows to that journal (February 7, 1885):

The different opinions of the numerous authors who have discussed the question of iron, used as a therapeutic agent, may be summarized in the two follow-

ing propositions. The first, that iron is a specific remedy for anæmia; it provides the blood-corpuscles with an element essential to their formation—hæmoglobin; the second is, that iron only serves as a stimulus to the digestion. M. Hayem, in the *Bulletin de Thérapeutique*, supports the first resolution; M. Du-jardin-Beaumetz (*Réflexions Critiques sur l'emploi du Fer dan le Traitement du Chlorose*) the second. Tiedemann, Gmelin, and Claude Bernard have sought only to discover if iron is absorbed; others have based their views on the number of the blood-corpuscles, and the paleness or redness of the blood. MM. De-bierre and Linossier, of Lyons, have ascertained the quantity of iron contained in the blood before and after a long treatment. A dog, weighing seventeen kilos, was submitted to a regular uniform diet, and a prolonged treatment with iron. Its blood contained a larger quantity of iron than before the treatment was begun, and increased more quickly than did the proportion of corpuscles. The proportion of urea in the urine diminished. The animal did not take any exercise, therefore the smaller proportion of urea observed must be attributed to the influence of iron.

Cocaine in Skin Diseases.

Dr. WYNDHAM COTTLE thus writes in the *Brit. Med. Jour.*, February 7, 1885: "Since the value of new drugs is only to be estimated from records of the results obtained by them in practice, I think the following cases may be of interest:

"A lady was affected with extensive eruption of lichen planus, accompanied by very severe irritation, which prevented sleep being obtained except by the aid of narcotics. All the usual local remedies were tried without benefit. A 4 per cent. solution of hydrochlorate of cocaine was freely and repeatedly applied to and around the irritable spots, but no relief was experienced.

"A lady suffering from severe eczema of the limbs of long standing, the affected parts being red, exuding, and partially denuded of epidermis. Most intense itching had long persisted, which none of the many measures tried had alleviated. An ointment of vaseline, containing 5 per cent. of hydrochlorate of cocaine, was freely and frequently applied to the eruption, and rubbed in as firmly as the tender and inflamed condition of the skin permitted. Some slight diminution of the irritation followed.

"For cocaine to be of service for preventing skin-irritation, it seems to me that it should be dissolved in an oily or fatty substance, and the condition of parts should be such as to allow of its being firmly rubbed into the skin, so as to favor absorption."

Carbolic Acid in Purulent Affections of the Eye.

Dr. G. HERBERT BURNHAM thus writes in the *Canadian Practitioner* for February, 1885:

A patient comes with red, swollen, inflamed lids, rather brawny-looking; conjunctivæ much swollen, pain, and a more or less marked secretion from the eye. I order him to bed; then have placed at his bedside a basin of cold water with a large lump of ice in it. With this water he keeps almost constantly bathing the eye, and in the intervals places cloths wet in the iced water upon his eye. Sometimes the temperature is so high that these cloths actually steam after being a

few seconds in position. The relief given by this cold application is great and immediate. At night time a nurse should sit up, so as to keep up the treatment continuously. The use of the carbolic acid begins at the same time. At first I put into the eye a solution of the strength of 1 in 40 so as to accustom the eye and patient to it, then the 1 in 20 or 5 per cent. solution, that is to say 24 grains to the ounce of water. As the discharge increases I use it more frequently, till finally it is employed every hour, day and night, and with no sparing hand. If possible, the lids are everted and the lotion freely applied, flooding the eye with it. I also cause the eyeball to be moved about by the patient so that the lotion can get to every part. In very bad cases it is impossible fully to evert the lids even after free discharge has begun; and here this strong caustic is very valuable, as it flows so readily beneath the lids. Its effect on the complications which arise, such as transparent ulcers and infiltrations of the cornea, is most prompt and satisfactory.

Hazeline in Hemorrhage from the Bowel.

Dr. RICHARD HALPIN thus writes in the *Brit. Med. Jour.* January 31, 1885. The following case illustrates the value of *Hamamelis virginica* in the treatment of hemorrhage.

A cabinet-maker, aged 44, had been subject for eight years to bleeding from the rectum. In 1877, he suffered from an attack of pleurisy of the right side, and, during convalescence, noticed that he was passing blood in his motions in considerable quantities. The hemorrhage was periodic, coming on in alternate months, lasting four weeks at a time. The blood was passed in the morning, immediately after the bowels had been relieved. It was bright red in color, usually fluid, but sometimes coagulated, and amounted to about two ounces. The patient's general health suffering considerably, he was reduced to a condition of great debility, and was forced to seek advice at St. Bartholomew's Hospital. He was found, on examination, to be free from piles, fistulæ, etc., and was treated with little or no benefit as an out-patient. In November he was admitted as an in-patient at the Royal Hospital for Thoracic Disease, and was found to have taken almost every drug in the *Pharmacopœia*; but the hemorrhage still continued. Knowing the value of hamamelis in these cases, it occurred to me that the aqueous distillate of the fresh bark known as hazeline might be of use; and I accordingly injected an ounce, diluted with a small quantity of water, into his rectum, giving at the same time half a drachm by mouth every three hours. The bleeding was at once arrested, and, although the patient remained for some weeks under observation, there was no return of his old trouble.

This case, I venture to think, affords conclusive proof that we have, in *Hamamelis virginica*, a drug which may be relied on for the treatment of a very obstinate class of cases. I may mention that equally good results have in my hands attended its use in cases of pulmonary hæmorrhage.

The Therapeutic Properties of Thyme.

The *Boston M. and S. Jour.* says that Dr. CAMPARDON has given in the *Bulletin General de Therapeutique* the result of his practical observations with this drug in some thirteen cases, with the following conclusions:

I. Internally as well as externally the essence of thyme is a powerful agent, producing certain phenomena in the healthy man which are always the same, but vary in degree, according to the dose and constitution of subjects, and which can be divided into three periods:

1. The period of excitation.
3. The period of super-excitation.
3. The period of prostration, of collapse, followed by death.

II. The therapeutic doses are those which produce excitation (from 20 centigrammes to 1 gramme).

III. Applied to therapeutics, this drug which is a diffusible stimulant, on account of its exciting properties, should be used internally in chloro-anæmia accompanied by depression, in syncope, etc.

IV. Its diaphoretic and diuretic properties render it useful in localized muscular rheumatism, in erratic rheumatism, in dermalgia, neuralgia, etc.

V. Its action on mucous membranes renders it of the greatest utility in the catarrhal stage of affections of the bronchi, the urethra, the vagina, and the bladder.

VI. It is a hæmostatic, and acts promptly and energetically, particularly in passive hemorrhages.

VII. Used externally, with friction, baths, fumigations, and inhalations, it is a possible aid to its internal use in shortening the duration of diseased action, and in assuring the result.

VIII. As an antizymotic, its power is equal to that of thymic acid; it is efficacious in counteracting the septicity of wounds, and causes a prompt disappearance of the fætidity of secretions.

Jacaranda Lancifoliata.

Dr. Z. MENNELL thus writes in the *Brit. Med. Jour.*, February 14, 1885: Having tried a preparation of *Jacaranda lancifoliata* from Columbia, where, I am told, it is used by the natives as a specific for venereal diseases, I may state that I have administered it in fourteen cases during the past four months, and have found it more efficacious than any other preparation. I should like to know whether any other member of the profession has tried it, and with what result.

In my fourteen cases it has succeeded in stopping the discharge, without any complication, in, at the most, three weeks. I have tried it in two cases of syphilis (one in the secondary stage), and have found it, so far, most successful. In four of my cases, where no other treatment had been tried, it succeeded, in fourteen days, in stopping the discharge, and all inconvenience (chordee, etc.), with no return of any of the symptoms. In all the other cases, where other treatment had been followed, the result was just as favorable, only extending over a period of three weeks.

In none of my cases did I use any injection, except where a discharge had persisted over four months, and in another case of long standing gleet, giving the tincture in fifteen-minim doses, and an injection of the same, ten minims to the ounce. It stopped the discharge in three weeks, and there has no return for a month. I had treated this latter case before with sandal-wood and an injection of zinc, without any beneficial result. I had used the iodide of potassium, and also

copaiba; and, after making certain that there was no stricture, I tried the medicated bougie, but did not succeed in stopping the gleet, or the inconvenience of constantly passing urine, until, in desperation, I used this preparation. This patient had been under treatment before he came to me, and had been told that a sea-voyage, with a return to general health, was the only thing likely to do good.

Trypsin as a Solvent of the Diphtheritic Membrane.

The *Med. Record*, February 21, 1885, says that Dr. B. M. VAN SYCKEL, of 2091 Sixth Avenue, recommends a trial of trypsin as a topical application in diphtheria. Trypsin is one of the ferments of the pancreatic fluid. It will dissolve its own weight of fibrine in from five to ten minutes at a temperature of 37° Celsius (98.5° F.). It has been successfully employed as a solvent of the false membrane in diphtheria by Drs. J. Lewis Smith, of New York, and J. A. Keating, of Philadelphia, and at present several gentlemen are engaged in clinical experiments to determine its value for this purpose. Dr. Van Syckel has found that when the diphtheritic membrane, removed post-mortem, is immersed in a trypsin solution at a temperature of 37° Celsius, "it becomes transparent and slightly swollen, then breaking into fragments it is slowly dissolved, with the exception of a small residue consisting of cells and possibly bacteria. This settles to the bottom of the glass, leaving the solution slightly turbid and mucilaginous. In cases where the membrane is still adherent to the surrounding tissue, the solvent action of the trypsin is slower, but no apparent change takes place in the healthy tissue." The solution is to be applied by means of the spray, applications being made every fifteen minutes if possible, or as often as the strength of the patient will permit, only a small amount of the liquid being used at each spraying. The importance of frequent applications should be impressed upon the parents or nurse, as upon this depends the success of the treatment. A leading pharmaceutical firm of this city is now employed in preparing a solution for use in diphtheria; but the writer states that the following extemporaneous preparation has been found very serviceable in his hand: 50 c. c. (3 j. 3 vj.) of a 1 to 1,000 solution of salicylic acid may be added to 5 grm. (3 j. gr. xvij.) of "extractum pancreatis," and the mixture allowed to digest in a water-bath at a temperature of 37° Celsius (98.5° F.) for four hours, then filtered and made slightly alkaline by the addition of bicarbonate of soda. The solution should be made only as required, as it will not keep more than one or two weeks.

Hyoscyamine in Delirium Tremens.

Before the Cambridge Medical Society (*Brit. Medical Journal*, Feb'y 7, 1885): MR. HYDE HILLS read the notes of a case in which he had used this drug. He was called up one morning to see a fine healthy-looking man, 34 years old, who had been drinking a bottle of brandy a day for ten days, but had taken none for the last twenty-four hours. He had not slept for three nights, and was now delirious, with the usual symptoms. He administered one-fourth of a grain of hyoscyamine in a little brandy and water at 4:30 a. m.; and at 7:30, as he was still restless and noisy, with dilated pupils, a second dose of one-sixth of a grain was given. At 1:30, as he did not sleep, one-third of a grain was repeated; after

which he remained quiet for about two hours. At 9:35 p. m., though still showing the effect of the drug in dilated pupils and dry tongue, he was given five-twelfths of a grain. He had a restless, noisy night, and was worse than ever. His pulse was 120, he complained of thirst, and had taken no nourishment for thirty-six hours. At 5:45 a. m., or twenty-five hours after the first dose, he was given seven-twelfths of a grain; he was soon quieter, and in two hours was asleep. In the morning, he was quite right, and soon recovered. The same drug was used in five other cases of delirium tremens. In three cases, a quarter of a grain given at bed-time produced sleep, and was not again required. In two, a quarter of a grain was given ineffectually, but one-third of a grain in the morning had the desired effect; and all recovered. In a case of mania, a third of a grain produced rather alarming symptoms. His practice would be to give a fourth of a grain first, and, if necessary, give increasingly larger doses every six hours. He was in the habit of giving it in some alcoholic beverage. Merck's solution of the amorphous hyoscyamine was the preparation used. Mr. Carver had used the drug on two occasions. In one case of delirium tremens, after bromide of potassium and chloral had failed, small repeated doses of hyoscyamine quieted the patient within twelve hours. In a bad case of acute mania in a young lady, doses of half and three-eighths of a grain produced sleep and recovery in a very satisfactory manner.

One of the Results of the Administration of Kairin.

Dr. R. J. NUNN thus writes in the *Atlanta Med. and Surg. Jour.*, Dec., 1884: A child of five years of age was being treated for malarial fever of the continued type; pulse ranging about 125, temperature 105 degrees F., and over. Five grains of kairin were given every two hours until thirty grains were taken. This was followed by a fall of temperature to 101 degrees F., but the urine passed was blue, commencing about twelve hours after the administration of the kairin, continuing about twenty-four hours, and then gradually resuming the normal appearance; the reaction of the urine was acid sp. g. 1.020, no albumen. The addition of nitric acid turned the blue color to a deep red. After standing forty-eight hours in a corked bottle the blue urine gradually assumed a normal appearance, the change commencing at the bottom of the bottle and gradually extending to the top.

The reduction of temperature was of short duration, very much shorter than I have been accustomed to see after the administration of kairin.

This result was so unexpected that I was anxious to assure myself that it was dependent upon the kairin as a cause, and as a test I repeated the kairin after a few days, and its administration was followed by a like result.

Although I have used kairin very extensively with patients of all ages, I have never in any other case observed results similar to those just described.

The facilities for chemical analysis at my command were much too meagre for me to attempt an investigation looking to the discovery of the nature of the substance which gave to the urine in question the abnormal appearance described. I must therefore content myself with recording the fact, in the hope that attention being directed to the urine changes resulting from the administration of kairin, others more favorably situated than myself may have an opportunity to

thoroughly investigate the subject. I would suggest, however, that a clue to the solution of the problem may be found in the parallel action of carbolic acid.

The Action of Paraldehyde.

Dr. S. A. K. STRAHAN thus writes in the *Lancet*, January 31, 1885. Paraldehyde, which was first used as a therapeutic agent by Dr. Cervello, Palermo, some eighteen months ago, has not received in this country the attention it deserves. As a sleep-producer it stands in the same rank with chloral; while in anything like moderate doses it approaches in safety the safest of all sedatives, bromide of potassium. I have employed it over 150 times, and in about twenty-five cases, and have found but two patients who did not respond to medium doses of the drug. One of these was suffering from acute mania, and the other from severe facial neuralgia. I have given it in mania, acute and chronic, melancholia, dementia, the various stages of general paralysis during those periods of restlessness and sleeplessness so often met with in idiots and imbeciles, and in simple insomnia, and have found it almost invariably a certain somniferent. Paraldehyde acts more quickly than chloral. When the dose is taken a feeling of warmth, a kind of grateful glow, is experienced, and the patient is often asleep within ten or fifteen minutes. When it does not produce sleep it does not excite, but rather tends to soothe and calm an excited or depressed patient.

The sleep induced by paraldehyde is, I think, a nearer approach to natural sleep than that obtained by the administration of any other drug. It is light, apparently dreamless, and certainly refreshing; the patient can at any time be awakened by a loud word or a gentle shake, and when so aroused does not display any alarm or confusion of ideas, and if left alone at once falls to sleep again. During this sleep the breathing becomes slower and deeper than in the waking hours, while the pulse becomes slightly less rapid, and possibly stronger. The temperature (surface) is not changed, the flow of urine is increased, and the skin is not affected. No headache or other unpleasant symptom is experienced on waking, and the appetite is not injured even by the daily exhibition of the drug for considerable periods—in one of my cases for over three weeks.

The dose is from thirty to ninety minims, but more than sixty drops is seldom required to induce sleep; and this, or even a smaller dose, repeated within an hour, is much more effective than a single large dose. The paraldehyde is best given as its first administrators recommend—that is, with a bitter tincture in sweetened water. It has a pungent taste, but a drachm when combined with fifteen drops of tincture of orange and an ounce or more of water sweetened with syrup makes a not unpleasant draught, never in my experience causing nausea or vomiting. The drug is given off principally or wholly by the lungs, and may easily be detected in the breath for ten, twelve, or more hours.

To sum up now all that can be said in favor of this drug. It is an equally sure hypnotic with chloral, it does not in any case produce excitement before sleep, it leaves no headache nor other unpleasant symptom on awaking, and it does not affect the appetite. These are all matters of not slight importance, but there is one advantage which this drug possesses over chloral which at once gives it a place among our most useful hypnotics, and that is the absence of any depressing or paralyzing action on the heart. This absence of action upon the cardiac centre

permits of its being given with perfect safety to general paralytics and others to whom chloral would only be given with the greatest caution and with constant anxiety as to the result of even small doses. The new drug may not take the place of chloral in everyday prescribing, but it must supplant it in those unhappily numerous cases in which the action of the sedative upon the heart is to be feared, and yet where sleep is often so much to be desired.

Paraldehyde may yet be found to be possessed of other useful properties. I have given it in a few cases of facial neuralgia. In two cases it acted like a charm, while in all the others its effect was *nil*. I have also found it useful in a case of "nervous headache."

Chlorate of Potassium.

The *London Med. Record*, (December 15, 1884,) tells us that Dr. J. VON MERING (*Das Chlorsaure Kali*, Berlin, 1884, pamphlet, pp. 142) has carried on in Hoppe-Seyler's laboratory an elaborate experimental investigation into the physiological, therapeutical, and toxicological actions of chlorate of potassium. He finds that the salt, under the influence of carbonic and probably of other acids, is decomposed in the system with the gradual liberation of chloric acid, which tends to reduce the alkalinity of the blood; and in this lies the key to the right understanding of the action of the chlorate. Von Mering discriminates between acute and subacute poisoning by the chlorate. In acute cases—such, for instance, as result from the administration of one large dose of the salt—death results in the course of a few hours from decomposition of the blood, with symptoms of severe vomiting, profuse diarrhœa, intense dyspnœa, cyanosis, and profound cardiac depression. On section, there is found a chocolate-brown color of the blood; whilst the organs generally, especially the kidneys, are relatively little altered in appearance. The blood contains the stored-up products of its decomposition (methæmoglobin, etc). With a less acute form of poisoning death results—not simply from an accumulation of oxidation-products in the blood, but from the accumulation of these in the organs, especially the kidneys, leading to occlusion of the tubules, scanty urine, and uræmia. The following symptoms and appearances are observed; greyish-violet petechiæ, icterus, accumulation of hæmoglobin in the blood, changes in the red corpuscles, dyspnœa, and cardiac depression; gastro-intestinal disturbances, such as profuse diarrhœa and severe vomiting, the vomited matter being generally greenish-black; and enlargement of the liver and spleen. Functional alterations in the kidneys, such as anuria, occur; the scanty turbid urine having a reddish-brown or black color, and exhibiting the spectra of methæmoglobin and hæmatin, and being also highly albuminous. It also contains numerous detritus-masses of red blood-corpuscles, in the form of brown cylinders or brownish yellow flakes. Neuroses—uræmic complications, such as delirium, coma, severe vomiting, tonic and clonic convulsions, and rigidity of the limbs, are observed. The subjective phenomena are headache, anorexia, tenderness of the stomach on pressure, pains in the hepatic and lumbar regions, intense oppression of the chest, and a feeling of extreme weakness. *Post-mortem* examination reveals the characteristic chocolate hue of the blood, and the presence of methæmoglobin in it; but sometimes these phenomena are absent, especially when the patient has long survived the administra-

tion of the poison, or if the necropsy be delayed for several days. The abdominal organs—spleen, liver, and kidneys—are considerably enlarged, and filled with the accumulated brown products of destruction of the red blood-corpuscles. The greatest alteration is observed in the kidneys, in which both the straight and the convoluted tubules are filled with brownish masses, partly cylindrical, partly irregular in shape. The osseous marrow is brown, and contains numerous decomposed blood-corpuscles. The gastric mucous membrane is swollen and ecchymosed.

Whilst the majority of instances of poisoning by chlorate of potassium (in which icterus and sparse secretion of reddish-brown urine occur) terminate fatally, this has not been invariably the case. A chronic poisoning by the salt is incredible; and indeed it has been observed that the prolonged ingestion of small doses of chlorate of potassium—one-quarter of an ounce to one ounce daily, in divided doses—has been followed by no injurious results; but the emptiness or fullness of the stomach, and the greater or less alkalinity of the blood, greatly influence the result. The use of the chlorate in febrile affections, when there is subnormal alkalinity of the blood, is to be avoided; and Von Mering emphatically condemns as especially dangerous to life the internal use of the salt in large doses in the treatment of diphtheria.

The author gives the following as the maximum safe doses, when the use of the salt is not contra-indicated: for adults—thirty-grain doses, with a daily maximum of two drachms: for children aged 10 to 14 years, one drachm daily; for children aged 1 to 10 years, thirty to forty-five grains; and for infants not more than fifteen grains daily, always given in divided doses.

Hydrochlorate of Cocaine in Aural and Other Cases.

DR. H. C. BÖNNING thus writes in the *Phila. Med. Times*, January 10, 1885: On November 3, 1884, I was requested to call on Dr. L. R. K., and remove a piece of cinder that had been embedded in the cornea. I found on examination that the cinder was firmly fixed in the cornea, and surrounded by an area of discoloration. Efforts at extraction provoked intense suffering, and I determined to use cocaine to test its anæsthetic virtues. I obtained a weak solution from Dr. L. W. Fox, and dropped four drops every three minutes into the eye, using sixteen drops. In a few minutes the pupil dilated and the cornea was insensible. I removed the foreign body without causing the slightest pain. The cornea continued anæsthetized for nearly two days; the pupil remained dilated for a day longer, but gradually returned to the normal. Accommodation was not interfered with to any extent, J. No. 1 being read with the aid of the patient's ordinary glasses at ten inches. A curious symptom observed was a marked dryness of the throat and mouth, which passed off in the course of a day.

Since then I have used the cocaine in other eye cases. In a case of ulceration of the cornea accompanied with severe pain, the instillation of the cocaine was followed by a marked relief of all pain and a diminution of the attendant conjunctival injection. The photophobia present was not influenced by the cocaine; severe suffering was produced by exposure to light; but the constant pain attendant on the ulcer was relieved. The next day I tapped the anterior chamber, and the patient is now well.

About the middle of last month a child was brought to my office for ear-trouble. The history revealed an attack of scarlet fever two years ago, followed by deafness and a discharge from the meatus. An examination proved marked loss of hearing, but I could not determine anything more, the slightest contact with the ear producing pain, and exciting the girl so much that the mother interfered. I ascertained that discharges of blood occurred from time to time, and that at first, when the child held her nose and mouth and expired, a hissing noise in the ear could be heard. I obtained the child's consent to an examination if it could be done painlessly, and forthwith used a strong solution of cocaine (eight-per-cent. solution), dropping about thirty drops of this into the ear in the course of half an hour, although much of the fluid overflowed the meatus. Ten minutes after the last drops were used I opened the meatus with a small bivalve ear-speculum and found it contracted by a growth—which partly filled the canal—of a pale-reddish color, bleeding slightly upon touch. The child (Mabel C. L.) felt the manipulation, but no pain was produced. Forcible expiration produced a hissing sound, and my diagnosis—vascular polypus with perforation of the membrana tympani and chronic catarrh—was confirmed. The next day the patient appeared for operation, and after using the cocaine again (although the parts were still numb) I removed the growth and washed out the ear, no pain of any consequence being caused. The case is progressing excellently, and I hope soon to close the perforation, which is near the lower portion of the membrane, being a circular hole with thickened edges.

My own child—a boy 26 months old—a week ago developed a small follicular abscess of the meatus auditorius, accompanied by pain, feverishness, and wakefulness. I used the cocaine in his case twice in twenty-four hours with much relief. The next day I opened the abscess, which, of course, permanently relieved him.

November 5, Mr. Barcus, a student at medicine, kindly permitted me to drop some cocaine solution into his ear, the result being similar to the above cases. The canal was benumbed. A probe and speculum, which in the other ear caused pain when twisted or moved from side to side, was felt in the anæsthetized ear, but no pain was caused.

I would note, in no case were any unpleasant symptoms produced except in that of Dr. K., where dryness of throat was marked. This may, of course, have been a mere coincidence. In ear cases the solution should be much stronger than in eye cases, otherwise the effect will be neither so prompt nor so satisfactory.

Rhigolene.

Dr. BENJAMIN WARD RICHARDSON thus writes in the *Lancet*, Jan'y 17, 1885: Rhigolene is not in any sense a local anæsthetic by virtue of causing insensibility from its absorption. It cannot, in fact, be absorbed locally. It can, however, be dispersed, like ether, in the form of spray for producing cold; in that way it can be used for causing anæsthesia by extreme cold, and so used is valuable for quick and superficial freezing. Within a few weeks after the appearance of my original essay on ether spray in 1866, a merchant in the city sent me a specimen of rhigolene, as "a fluid lighter and less soluble than ether, and with a lower boiling-point," he having read that I wished for such a fluid. I at once brought the fluid

into service for spray, and found it most effective for rapid freezing. In dentists' practice it soon became very popular. The cold produced by the rhigolene spray is so intense that I have seen a portion of the skin rendered hard, white, and insensible by it within two seconds. At first sight this promises well, but as a general fact the action is too rapid. The superficial layer of surface that has been so rapidly frozen is rendered a non-conductor, and deep freezing and deep insensibility are prevented. Finding this out, I constructed the *compound anæsthetic ether for local anæsthesia*, consisting of rhigolene and anhydrous ether in equal parts. That fluid has been very largely used from the time when it was brought out, and is still in use as largely, I believe, as ever.

Rhigolene may be used alone, as spray, in some cases. For inserting a suture it answers well, the point where the needle is to enter being made insensible by it instantly, and quite long enough to save the pain of the puncture. It can be used for painless extraction of loosened stumps of teeth, and for puncture of a superficial abscess. Directed as spray over the closed eyelid, held tense over the ball of the eye, it causes a brief insensibility of the conjunctival surface; the conjunctiva, an almost insulated surface, being more easily rendered sensitive or insensitive by local influence than other mucous surfaces, which rest on a deeper cellular basis, or than the cutaneous surface.

Rhigolene, though not in itself a local anæsthetic, is capable of producing general anæsthesia on administration of its vapor by the lungs. Purified by distillation, it is a colorless and odorless fluid, and is even agreeable to breathe. It causes general anæsthesia with great rapidity, often within the minute, with recovery in two minutes. In my report to the British Association for the Advancement of Science at Exeter in 1869 (*Trans.*, p. 412), I spoke favorably of it for general anæsthetic purposes; but later experiments with it showed me that owing to its insolubility it was dangerous—as dangerous as amylene. I therefore ceased to advocate its introduction for general anæsthesia.

Readers who may be interested in this fluid may turn to my Exeter report upon it for some other curious and useful applications of it, of which I will briefly notice three.

For Burns.—I found that camphor and spermaceti dissolve in rhigolene freely. I therefore made a saturated solution of spermaceti and rhigolene, and then added camphor until that ceased to be dissolved. The solution so formed was applied with cotton-wool to burns. The evaporation of the fluid gave instant relief to pain, and left over the surface a thin layer of spermaceti and camphor, which excluded air and gave an excellent dressing. One drachm of spermaceti and one drachm of camphor will dissolve in two fluid ounces of rhigolene.

For Iodine Disinfection.—I found that the fluid would take up iodine. I used it, consequently, for making an iodine solution, and employed the solution for various purposes. Applied to the surface of a fetid wound, it leaves the iodine on the surface in finest subdivision. Sprayed into the throat, it is very useful in malignant or fetid ulceration, one or two injections of the spray being quite sufficient to leave a free portion of iodine on the surface. Inhaled as a weak solution, it affords a means of allowing iodine to enter the respiratory tract, a little iodine being always carried over with the vapor. The strength of the iodine solution which I use is five grains of iodine in one fluid ounce of rhigolene. One

of Gamgee's excellent absorbent pads treated with half a fluid ounce of this solution becomes in a few moments a most perfect iodine sponge, applicable for a variety of useful purposes.

For Antiseptic Use.—By shaking a strong solution of ammonia with the rhigolene and then decanting off the water, I obtained an ammoniated solution which acts as an excellent antiseptic, the vapor of which can be inhaled. The same solution charged with camphor is very useful for the preservation, temporarily, of natural history specimens. Dead objects are perfectly preserved by putting them for a short time into a bath of the solution, letting the fluid escape as vapor, and leaving the camphor in the tissues.

Aldehyde and Paraldehyde.

Dr. SIMON FLEXNER thus writes in the *Louisville Med. News*, January 24, 1885: The introduction into medicine of paraldehyde as a new agent for the production of sleep, the fact that in practice it has given results quite in keeping with the high expectations based on it, and the comparative scarcity of readily accessible literature on the subject of the peculiar class of compounds of which the paraldehyde is a member, have all had to a greater or less degree the effect of stimulating inquiry in this direction. With this as an excuse I would submit the following:

The aldehydes are a class of bodies resulting from the abstraction of hydrogen from the primary alcohols and their ethers. In this process the alcohol loses two equivalents of hydrogen, the first coming from what is known as the hydroxyl group, and the second from the carbon combination with hydrogen. The resulting compounds, the aldehydes, are intermediate in composition between the primary alcohols and the acids resulting from the oxidation of the aldehydes, and can easily be converted into either.

For the regeneration of the alcohols, all that is needed is to treat the faintly acidulated aldehyde with sodium amalgam, when the two atoms of abstracted hydrogen are replaced. For the production of the acids simple oxidation of the aldehydes only is necessary; and, since the aldehydes are produced in the first instance by a process of oxidation, it becomes evident why extreme circumspection is required in the degree to which the oxidation is carried; for, by overstepping the limit, the resulting product will mainly consist of acid, the formation of the aldehyde having been an intermediate stage which is passed.

The aldehydes are so very susceptible of this change that many of the metallic oxides will, without the aid of oxidizing agents, cause this conversion; but of all, the action of the silver oxide is most characteristic. If an ammoniacal solution of nitrate of silver is added to aldehyde, and the mixture slightly warmed; there will be produced a reduction of the silver nitrate, metallic silver separating, while the ammonia salt of the aldehyde acid will remain in solution.

Of the many characteristics of this class of compounds, the most prominent is the ease with which they are converted into polymeric modifications, in which case tripled molecules result. And here we will examine the aldehyde which is most familiar to us, and to which paraldehyde is related.

Ordinary alcohol, ethylic alcohol or its ether, ethylic ether, yield by careful oxidation ethylic aldehyde, which is known as acetic aldehyde, or with more

special reference to its chemical composition, ethylidene oxide—ethylidene being the hydro-carbon radical of this group.

The production of acetic aldehyde is not attended with any particular difficulty where care is taken to confine the oxidation within certain limits, and the processes by which it can be made are numerous. The oxidizing effect of sulphuric acid and manganese dioxide on ethylic alcohol is usually taken advantage of for the production of the body in question, and with proper facilities for cooling the evolved aldehyde, much can be prepared to good advantage by this means.

The relation existing between ethylic alcohol and its aldehyde is easily seen by comparing their formulæ, and then the close proximity held by the acid resulting from the aldehyde is also made evident. For instance, alcohol is represented by the formula, C_2H_6O ; aldehyde by C_2H_4O ; acetic acid, $C_2H_4O_2$. The ethylic aldehyde is a mobile colorless liquid lighter than water, and very volatile, absorbing in evaporation large amounts of heat. Its vapor, when inhaled, produces a feeling of tightness in the chest; but beyond this it is not known to possess any special physiological characteristics, certainly none in the direction in which its congener, paraldehyde, has achieved such success. From this aldehyde the paraldehyde is produced by causing a re-arrangement, or rather an approximation, if it may be so termed, of the molecules of the original aldehyde.

Paraldehyde may be viewed as a concentrated aldehyde; an aldehyde in which three molecules have been compressed into one. This change is producible in a variety of ways, but in no instance does the agent employed to initiate, as it were, this change in the original aldehyde, enter into the composition of the resulting paraldehyde. It acts in all probability by its presence, and by its presence only. Strange to say, the action set up in the simple aldehyde seldom, if ever, extends through the entire mass; there always is some unaltered aldehyde, from which the paraldehyde must be freed before it is fit for use. For the production of this change, that is, for the conversion of the acetic aldehyde into paraldehyde, all that is requisite is that a small quantity of sulphuric acid be added to the pure ethylic aldehyde. There is an evolution of heat betokening chemical change, and a great diminution of volume in the liquid; but the resulting product, as before intimated, does not consist of pure paraldehyde—it is contaminated to a greater or less degree with secondary products, which it is our next duty to remove. To this end simple cooling to a point below $+10^{\circ}$ C. suffices, for the paraldehyde at that temperature is crystalline, and therefore easily separable from the other bodies which preserve their liquid state. So prepared, this body displays the following characteristics:

It is crystalline below $+10^{\circ}$, melts at 10.5° , boils at 124° . At 15° its specific gravity is .998. Its vapor density is 4.58, just three times as great as that of ordinary aldehyde. This is in keeping with its theoretical formula, which is $C_6H_{12}O_3$. Chemically it is triethylidene trioxide. In practice the paraldehyde has been administered in the form of an elixir to good advantage.

Hydrochlorate of Hydrastine.

Dr. ROBERT SATTLER thus writes in the *Med. News*, January 31, 1885: The well-known application of the preparations of *hydrastis canadensis* as therapeutic agents for the various affections of mucous surfaces, induced me several years

ago to test its efficacy in the management of catarrhal processes of the nose, retropharyngeal space, and pharynx, which constitute in so many cases the primary or causative lesions of middle ear disease.

Although a fair and extended trial was given the remedy, which was resorted to in various forms of solution, and by various methods of application, I abandoned it, principally on account of the staining of towels and handkerchiefs which followed its local use and also for the reason that I became convinced that similar good results could be obtained in this locality from other remedies, with less objectionable consequences to the patient. Impressed, however, with its usefulness as a local stimulant to the vascular and secretory portions of the mucous membranes and therefore applicable in both the dry and hypertrophic forms of catarrhal inflammation, I determined to await the appearance of more satisfactory preparations of the drug, and to renew at some future time a series of observations.

Several weeks ago, my friend Prof. J. U. Lloyd sent me several, to me altogether new, preparations of hydrastis, with the request to test their therapeutic value in those affections in which the drug would appear to me indicated or applicable, and to furnish a brief summary of results for his work of *Drugs and Medicines of North America*.

At my request, two, four, and five per cent. solutions of the sulphate of berberine and of the hydrochlorate of hydrastine, the two alkaloids of the hydrastis canadensis, also the sulphate of berberine and hydrochlorate of hydrastine in powder form, were furnished, and a series of observations, carefully recorded by my assistant, Dr. C. H. Castle, were at once commenced at my clinic.

The use of the berberine solutions proved of so little advantage, and was so uniformly attended by so many disadvantages when used in the form of collyria, owing to the marked staining of the adjoining cutaneous area and the immediate precipitation of chemical transformation of the mucous secretions, that it was abandoned. The use of solutions, and particularly the insufflation of the powder into the bottom of the external auditory canal, was followed by the same unpleasant results—i. e., staining, no appreciable effect except coagulation or firm incrustation.

The solution of the hydrochlorate of hydrastine—a white, colorless, and readily soluble salt, which differs from and is superior, on account of its soluble property, to the ordinary commercial, yellow, insoluble, so-called muriate of hydrastine (muriate of berberine)—yielded different and far more satisfactory results.

A two or three grain solution of this salt, dropped into the conjunctival sac of the healthy eye, produces immediate local evidences of irritation and stimulation, which involves, to a greater or lesser degree, the entire ocular, palpebral, and reflected divisions of the membrane. It is attended by a subjective feeling, variously described as stinging, burning, or scratching, and excites more or less blepharospasm and lachrymation. The discomfort following the instillation, although pungent while it lasts, does not exceed a minute's duration, and ceases abruptly; more or less moisture of the lid margin and flakes near the inner canthus, are the evidence of the stimulant irritation of the conjunctiva.

Stronger solutions excite a correspondingly marked local reaction, more prolonged discomfort, intensified reflex symptoms, and greater flow of watery mucus. The agent seems to exert its influence exclusively upon the conjunctiva.

This local action established, it was resorted to in those affections of the conjunctiva in which a temporary, more or less pronounced hyperæmia is necessary to aid in or accomplish the absorption of infiltrated cellular or other inflammatory elements; follicular conjunctivitis, also in the second and third stages of granular conjunctivitis, and in another large class of cases eminently chronic, tedious, and annoying to both physician and patient; chronic catarrhal conjunctivitis attended by the usual local alterations and modification, or suspension of function of the secretory structures of the conjunctiva. Weak solutions were instilled into the conjunctival sac three or four times a day. In several cases, a ten and a twenty grain solution were applied, in addition, to the everted lids, and washed off with water and brush.

The results in all cases of follicular conjunctivitis may be considered satisfactory. The discomfort following the instillations was less severe than after the use of mineral or vegetable astringents, or mercurial stimulants of the same strength. The desired object—prompt stimulation, active hyperæmia, irritation of the circulatory and glandular structures—was accomplished with less discomfort to the patient and a more tonic and stimulant local effect.

In the chronic granular and other catarrhal forms, the results were also satisfactory. In the purulent forms of infants, weak solutions were substituted for the customary alum. et. potass. sulph. and carbolic acid solutions, and used at short intervals, but the topical application, once a day, of an argentinum solution was continued.

Briefly reviewing the results, based upon the observation of a number of cases, it can be said that the white or soluble hydrochlorate of hydrastine is of value as a local tonic, stimulant, and irritant to the conjunctival membrane, and that it neutralizes or transforms chemically the altered secretions in the various other catarrhal processes and catarrhal stages of more serious lesions, and on this account is a valuable and reliable substitute for the various other stimulants and astringents. In many cases also, in which a simple tonic or stimulant effect is desired, with the least discomfort to the patient, it possesses advantages and is therefore entitled to preference.

I desire to add that my experiments were made with the hydrochlorate of hydrastine, and not with hydrochlorate of berberine. In commerce, the substance sold as hydrochlorate (or muriate) of hydrastine is in reality a salt of berberine, the yellow alkaloid, and prescriptions are likely to be compounded of the berberine salt, even though muriate of hydrastine is specified.

Prof. F. B. Power recently contributed an interesting paper on the chemistry of hydrastine to the American Pharmaceutical Association, and No. 4 of *Drugs and Medicines of North America* is devoted to a study of hydrastine and berberine.

Sulphite of Soda in Blood Poisoning.

Dr. T. L. WRIGHT thus writes in the *Cincinnati Med. News*, January, 1885: The prevalence of what is termed "blood poisoning," induces me to write a brief exposition of the powers of sulphite of soda.

I will write only salient points and facts from memory, without troubling the reader with theories.

Eight years ago I was requested to visit a lady, several miles distant, who was said to be suffering greatly with rheumatism. Upon arriving I found a woman about fifty years old, who was the victim of intense pain in one of her hands. The ball of her thumb had the appearance of being covered by a "blood-blister." The tips of two of her fingers on the same hand presented a similar aspect. The fever and general excitement were of a very high grade.

I was informed that the lady had, a day or two previously, washed the soiled bed and other linen of a person who had been confined in child-bed. I also learned that the woman who had been confined had, a couple of days thereafter, died of metritis. In doing this washing, my patient had pricked her thumb with a pin or needle.

My prescription was sulphite of soda, I might say *ad libitum*. I did not weigh the medicine, but dissolved probably half an ounce of it in half a pint of water; quite likely the solution was even stronger. Of this I gave a teaspoonful, considerably diluted, every fifteen minutes for a few doses. Then the intervals were increased to half an hour; then to one hour; and in the course of twenty-four hours they were increased to two hours, and held at that point. My object was to saturate the blood with the medicine—if I may be allowed the expression—with the utmost possible celerity.

Local treatment was principally yeast poultices, into which charcoal had been mixed. Of course, those portions of the hand which presented the appearance of sphacelus sloughed away, having the usual odor of putrid flesh. Two of the bony ends of the fingers projected beyond the flesh that remained intact, and when I applied the bone forceps to clip them, they simply mashed and crumbled away like rotten wood. A portion of the palm of the hand also sloughed away.

Something very soon produced a mitigation of the violence of the attack. As the local affection spread upward toward the elbow, mortification no longer appeared, but in place of it there was formed a deep-seated and rather large abscess, which I opened. As the malady still progressed toward the shoulder, the appearances were yet more favorable, until, after the lapse of a number of days, the local aspect of the malady was that of the ordinary spreading erysipelas affecting the skin. Anon, this also disappeared, and the patient, after a tedious recuperative process, entirely recovered, and is now living.

The hand of this patient shows evidence of considerable loss of substance, but is not very much deformed.

In the month of August, 1880, I was called to see another lady. I found her weeping with pain. One of her hands was greatly swollen, and seemed to be filled with deep-seated pus. Three days previously she had, while cutting some beefsteak, slightly wounded the end of one of her thumbs. This was the point at which her trouble began, and from which it spread to her whole hand. There were no gangrenous blisters. She had been treated for rheumatism.

In this case of blood-poisoning, it is a question whether the inoculation came from some minute portion of tainted flesh brought from the butcher shop; or whether it was from impurities imparted to a wash-basin, through sputa from a sore throat, a case of which was in the house.

The constitutional treatment was precisely the same as that adopted in the in-

stance of blood-poisoning already described. The hand was lanced in several places at different times. The arm also, between the wrist and elbow, was lanced, and a considerable quantity of pus discharged. As the disease spread upon the arm, it began to present the appearance of ordinary erysipelas; and it received the usual local treatment of that affection. In the course of several weeks all the symptoms disappeared, and the patient made a tedious convalescence. The early stages of this case were characterized by a very high grade of fever.

A feature of the disease in the present instance was an indication of *pyæmia*. Several joints were threatened with suppuration, and one ankle became swollen, tender, and red. At length, however, the inflammation was resolved, without the formation of an abscess.

The hand of this patient presents a fair appearance; one finger only being considerably contracted.

A third instance of blood-poisoning came under my care in the month of October, 1883. One E—, a saloonkeeper, over fifty years old, of robust habit of body, dispatched a messenger, requesting my attendance. I found him suffering exquisite pain from an insignificant-looking injury on one of his little fingers; the skin being broken. He had been in the cellar under his saloon, arranging some barrels. He wounded his finger upon an iron hoop, which was covered by a green mold.

In a few hours the track of the absorbents in the arm could both be seen and felt. There was no doubt that the man was the victim of blood-poisoning.

I at once put him under the same treatment that I had employed in the two instances heretofore described. The patient was compelled, within a couple of days, to take to his bed, from which he did not rise, even to obey the calls of nature, for more than two months.

The hand suppurated, and it was lanced several times and in several places. The lower portion of the forearm also became the seat of a large abscess. There were besides two or three superficial abscesses near the elbow joint. The local affection spread over the hand, forearm and arm, and it was not until it had passed beyond the limb altogether, and began to spread down upon the chest that it finally assumed the more propitious appearance of common, superficial erysipelas.

The individual peculiarity of this case was the involvement of the entire interstitial cellular tissue, causing the whole limb, from fingers to shoulder, to swell to enormous proportions; while the points of actual suppuration only occurred in detached places.

During the earlier stages of the malady the fever was very high. The temperature on the sound side of the body was usually 102° , while it was a degree higher on the side affected.

There was, of course, in each of the cases described, a large range of subordinate treatment. In particular, opium and its salts were freely employed. Quinine and the mur. tinct. ferri were given in a good deal of pertinacity as valuable adjuvants. I am bound to say, however, that on several occasions, after I had suspended the soda in consequence of its disagreeable taste, and attempted to substitute quinine and iron for it, my patients did not get along well, and I was compelled to return to the soda.

I have no doubt that there are other medicines equally efficacious as antiseptics and antiferments, with the sulphite of soda. But it so happens that when taken into the human system they are, to some extent, inimical to its well-being. They may even prove destructive to life, in consequence of some untoward and undesired toxic properties inherent in them; so that to administer them in very large doses, and repeating them for a long period of time, is impracticable.

The whole of this man's arm is nearly useless, and it hangs helpless by his side. This is by reason of damage to the texture of the limb itself, and is not derived from nervous incapacity of brain or spine. When moving about E—— seizes the wrist of the affected arm with his sound hand, and, steadying it, carries it beside and a little in front of him.

Iodoform in the Treatment of Anthrax.

Dr. H. H. VINKE thus writes in the *St. Louis Courier of Medicine* for February, 1885:

A carbuncle is an inflammatory, indurated, painful, circumscribed swelling of a livid red color, accompanied by considerable constitutional disturbance, and terminating in gangrene of the skin and subcutaneous cellular tissue. Text books, so far as I have access to them, give but a very meagre account of the causes of this affection. All that appears to be known in regard to its etiology is, that old age is predisposing, as it is scarcely ever seen in young persons; that it is often associated with gout and diabetes, and that an exhausted and vitiated vitality is invariably concomitant with this disease. All these may, and no doubt do, act as predisposing causes; it is my conviction, however, that the time is not distant, when some of our eminent microscopists will demonstrate that a living organism is the true etiological factor in the production of this affection. Although it is most frequently found on the back of neck, on the back, and on the buttock, it is sometimes met with on other places, as for instance on the face, where it is termed "malignant pustule."

A carbuncle is preceded by general malaise, and commences as a rule, with a small pimple, surrounded by an inflamed, brawny and indurated zone, accompanied by severe local pains, and increasing in size, till at times an enormous surface is involved. I saw once a patient having a carbuncle on the back of his neck, extending down the back, in whom a large, irregular, raw surface of 6 inches by about 10 inches was left when the disorganizing action of the same had exhausted itself. When the anthrax assumes a large size, a number of blisters may be seen upon the swelling, containing an acrid fluid, and indicative of gangrenous destruction of subjacent tissues. The small pimple in the centre breaks down first, and the surrounding mass appears to be a collection of cells, lying in close contact and containing pus; a condition of affairs which has been very properly described as resembling a honey-comb. Upon pressure small drops of pus will exclude from these cells. The skin over the entire inflamed area assumes a sloughy condition, coming away in strips suspended in large quantities of offensive pus. By slow degrees all the sloughs are separated and discharged, leaving a large granulating surface. From three to six weeks are required to accomplish this. While this process of destruction is going on, patient suffers excruciating pains, the parts are stiff and the slightest motion impossible,

he often being unable to lie either on the side or back, and is compelled to sit up. All this renders him very restless and wakeful, and together with the enormous amount of pus which is discharged, proves very exhausting. Besides this there is always considerable inflammatory fever and disorders of digestion.

Furuncles and carbuncles are frequently described together, as if they bore great resemblance, whereas in reality they are vastly different. As is well known, the common boil is simply a simple, circumscribed cavity containing pus, accompanied by no constitutional disturbance of any importance, and is readily cured by a free incision, which will permit the escape of pus. These two affections, therefore, cannot be mistaken. Sometimes an anthrax proves fatal, and when it does so, it is either by exhaustion or pyæmia; it may, however, destroy life by setting up a meningitis, or, as has been reported in one case of carbuncle occupying the abdomen, by exciting fatal peritonitis.

Treatment.—About 75 years ago this affection was treated in the following manner: The actual cautery was applied directly to the carbuncle, in order to disorganize it and circumscribe the limits of the same. The constitutional treatment consisted of bleeding and purgatives. I have been unable to find any statistics of cases treated in this heroic, not to say brutal, manner, but the mortality in bad cases must certainly have been very great. To-day carbuncles are treated with hot poultices and free incisions. These incisions are generally made in a crucial manner over the swelling; commencing at a point where the healthy skin meets with the inflamed, they are continued to a corresponding point on the opposite side. These free incisions are made to give exit to pus, to relieve the painful tension of the parts, and with a view of arresting the progress of the disease; herein, however, the knife proves as futile as the hot iron. After the sloughs are separated, which may be hastened by cutting them away with a pair of scissors, a plaster of some stimulating ointment, as the carbolized vaseline, or the Basilicon ointment, etc., is generally applied to the ulcer, and secured by adhesive strips; these latter at the same time serve to support the edges of the wound. Another method of treating them is by inserting into the swelling at various points small pieces of caustic potash, to hasten the disorganizing action of this disease. It has been stated that blisters in the earlier stages may abort them and cause their resolution; I have, however, devised no benefit from them.

Opiates, iron, quinine, tonics, stimulants, fresh air, nutritious diet, constitute the constitutional treatment.

This brings me to the object of this paper—the consideration of the treatment of carbuncles by iodoform typically applied. I saw this method of treatment suggested several months ago in a German medical journal, and have since had occasion to try it in two aggravated cases. There are several reasons why this remedy recommends itself in these cases:

1. Because it is a powerful antiseptic.
2. On account of its anodyne action.
3. On account of the property it possesses of stimulating granulations and hastening repair.

For theoretical reasons, therefore, this drug is indicated, and its usefulness, as far as my experience goes, is borne out in practice. After trying a great variety of different dressings, as solutions of salicylic acid, carbolic acid, etc., this has

proven the most soothing and pleasant to the patient. It should be employed in the following manner:

The entire inflamed surface and ulcer should be covered with a heavy layer of iodoform, also absorbent cotton and rubber paper may be applied over this, and the entire secured by bandage. This dressing should remain undisturbed for several days, or till the accumulation of pus necessitates a change. Objections on account of its penetrating and offensive odor might be urged against the use of this drug; this, however, can almost be completely corrected by the addition of 20 to 30 drops of eucalyptol to \mathfrak{zj} of iodoform.

Attention of late has been called to the toxic action of iodoform. It is claimed that such symptoms as the following may ensue upon the use of the same:

1. Elevation of temperature.
2. Depression of spirits, headache, disorders of the digestive tract, etc.
3. Alarming increase in the pulse rate.
4. Collapse, ending in death.

Besides these, general symptoms resembling those of cerebral meningitis have been observed. (Shede of Hamburg, *Centralblatt f. Chirurgie*, 1882, and Kuester, Berlin *Klin. Wochenschrift*, 1882). It has been suggested that these symptoms, which are so rarely met with, are to be ascribed to a peculiar idiosyncrasy towards iodoform (Schede), or what is perhaps more probable, upon diseased conditions of the excretory organs; especially the kidneys (*Brit. Med. Jour.*, 1882). Dr. J. H. Mundy of Vienna, in the *Berlin Klin. Woch.*, states that the cases of iodoform intoxication were the result of putting too much of it in the wound, as for instance the enormous amount of $\mathfrak{z}iiss$ to $\mathfrak{z}x$ at one time, in patients who were anæmic, or either very old or very young, and that in most of the fatal cases reported by Miculicz, Koenig, Hoeftman and others, a post-mortem examination revealed organic lesions, which might have been the cause of death (*London Medical Record*, 1882.) Although I have used iodoform in large quantities in dressing small and large wounds, I have never met with a single case of poisoning.

Some years ago I was summoned to see a boy who had his right thigh caught between a turn-table. There was a large wound on the inner side of the thigh. The surgeon in charge, being a great admirer of eucalyptus, poured a large quantity of the fluid extract of eucalyptus into the fresh wound, and then brought the edges of the same together with sutures. The eucalyptus acting here as a foreign body, prevented the healing of the wound, and the result, of course was necrosis of the flap, followed by pyæmia and ending in death. I simply cite this to show how a harmless drug, injudiciously employed, may be followed by ill effects; how a remedy, beneficial upon an open surface, may be potent with evil when put between flaps or within an enclosed cavity.

I agree, therefore, with those surgeons who deny altogether the possibility that iodoform used upon open and especially granulating surfaces will ever produce constitutional disturbance.

Medical and Surgical Uses of Spirits of Turpentine..

Dr. J. McF. GASTON thus writes in the *Southern Med. Record*, February 20, 1885:

Having observed frequent allusions latterly to the employment of the spirits of turpentine for its general and local effects upon the organism, it may not prove unacceptable to present some data from my experience with this article in medical and surgical cases during a series of years.

It is canonized as a domestic remedy throughout the Southern States; and we rarely find the voice of the people generally expressed in such strong terms in regard to a medicinal agent, as it comes forth from every class of the community in favor of the external and internal use of the spirits of turpentine, without having an underlying basis of trustworthy results. We should always have great respect for the disinterested expression of a public opinion by the laity, in matters of fact connected with their practical and commonplace uses of medicines. This is something very different from the trumped-up praises of a proprietary remedy; and while quackery seeks to bolster up its nostrums by flaming advertisements that are flaunted in the faces of every passer-by, we hear and see the fruits of every-day observation among the masses favorable to this domestic catholicon.

Since I listened long, long ago, to the teachings of Dr. George B. Wood in the University of Pennsylvania, respecting the virtues of the spirits of turpentine in enteric fever and other intestinal and peritoneal troubles, my conviction of its superior efficacy has been strengthened by the application of this mode of treatment, not only in these affections, but in many other disorders of the serous and mucous membranes. Commencing with the mouth, its corrective powers have been tested throughout the entirety of the tract of the alimentary canal, and likewise in the renal and vesical conduits, so that no agent has precedence to it in the functional disturbances of these several organs.

The great bugbear of Bright's disease, which is now coming to be recognized rather as a derangement of the chylopoetic viscera than a proper kidney disease, has not been modified more satisfactorily by any other medication than by the moderate and continued employment of this article. It is to be hoped that the mode of studying diseases by their effects, as in the observation of albuminous urine in this grave disorder, may give place to a more rational and philosophic search for the causes of the derangement in the physical organization, and that remedies may be directed to the correction of the sources of troubles in the animal economy.

If we should undertake to locate the spirits of turpentine in the classification of remedies in the *Materia Medica*, it would occupy most fitly a place under nearly every heading, according to the variety in the modes of its use, and be entitled to rank with the most approved medicaments in the list of internal and external agencies so classified in therapeutics. This is no unmeaning claim, based upon an extravagant conception of its wide range of medical properties on theoretic principles, but the sober and serious statement of positive knowledge of its effects, from actual application in a great variety of disorders.

We would note its recognized properties as a purgative in doses of a table-spoonful, as a diuretic in teaspoonful doses, as a nervine and anodyne when

given in portions of fifteen or twenty drops at frequent intervals, as an alterant and aseptic remedy in ten-drop doses repeatedly, while its corrective powers for indigestion when taken occasionally in the dose of five drops has made it a stand-by in some families. To recount the long train of ills for which the spirits of turpentine is found useful in the domestic practice of thousands of families, would carry me far beyond the limits which can be allowed in this brief notice. But it is not only the old women who, at the present day, discover the charms of this agent as a local application, as many of the most generally employed liniments, which have the most extensive sale and find the greatest number of recommendations from their customers, contain spirits of turpentine. The medical profession is united in giving it the pre-eminence for sprains and bruises, for aches and swellings of the joints, and for mangled wounds which might lead to gangrene or tetanus. Within my sphere of observation, there is no combination of medical agents equal to spirits of turpentine with camphor for averting the bad effects of local injuries to the superficial or deep-seated tissues, and parts which are ecchymosed, or as styled in common parlance blood-shotten, from blows or by falls, are relieved within a few hours by an application of this liniment upon pieces of flannel bound over the discolored spot.

But it is not to these ordinary uses of the article that the attention of the medical profession is now called. It has been brought to the notice of practitioners of medicine and surgery as a valuable injection into the parenchymatous structure of malignant tumors, and for inhalation of its vapors in diphtheria, in a way to give it an importance as a special medication in this class of cases. It has been resorted to as a disinfectant with the most satisfactory results, and there is not one in the whole list of aseptic agents anything so powerful in arresting gangrene in the adynamic disintegration of tissues which accompanies extensive injuries. The internal and external use of the spirits of turpentine in cases of peritonitis is unequalled, for the arrest of this serious form of inflammation in the abdomen. Nothing is known to compare with this article, mixed in castor oil, for colic and intestinal obstructions; while it is our sheet-anchor after a dose of calomel in biliary troubles. But its use after more active treatment in suppression of the secretion of the bile or in subacute hepatitis has not received that consideration from physicians to which my observation of its salutary influence would entitle it, and I have to urge upon those having obstinate cases of hepatic torpor a resort to this means of relief.

As an emmenagogue, likewise, I have secured most satisfactory effects from the spirits of turpentine, and in uterine catarrh it has given better results than other measures of treatment, while in leucorrhœa and in gonorrhœa I have employed it to advantage in conjunction with other medicines.

There is a species of atonia of the pelvic viscera that predisposes to displacement of the womb, in which small doses of spirits turpentine, kept up for several weeks, have proved very beneficial in my hands.

It has been found the most efficient remedy for diphtheria when administered internally as well as by its local application to the fauces and the inhalation of its fumes when burnt with tar, as already stated, and my favorable results in the management of this usually serious degeneration of the elementary structures is due to the thorough impregnation of the system with this antidote to blood-

poisoning. If septicæmia is capable of being arrested in any case, I would rely more upon the saturation of the secretions with this pervading depurient than upon any other agent.

In hemorrhagic disorders, the spirit of turpentine has been used with great advantages internally and locally, and though I have no personal experience in the hæmaturia and intestinal hemorrhages of typho-malarial fever, it has been used by others with benefit in this relaxation of the mucous surfaces. It is known as a valuable hemostatic by all surgeons who have had occasion to use it for the oozing which is sometimes so troublesome from extensive surfaces after operations, and has been attended with prompt relief by topical use in uterine hemorrhage. In that state of things following the retention of the placenta, and in offensive lochial discharges, there is no better corrective than swabbing out the uterine cavity with undiluted spirits of turpentine.

This is evidently a tolerance of these local applications to the mucous membrane and to the cutaneous surface in man which does not exist in the inferior animals; and the only drawback to the general employment of the spirits of turpentine internally is its occasional irritation of the urinary organs, inducing strangury.

This, however, may be obviated by combining camphor with it, and amongst the many patients to whom spirits of turpentine has been given, I have only met with two individuals with idiosyncrasies which precluded its use.

I have to prefer a claim for its recognition by the medical profession among the elegant preparations which grace the shelves of the pharmacist and apothecary of this progressive age. In the form of capsules, as prepared by Clertan, the spirits of turpentine can be taken by persons who have a repugnance to its taste and smell; and I have requested some of our druggists to keep it in this form, so that it is supplied to my patients thus whenever prescribed. In these capsules the French use the spirits of turpentine extensively in neuralgias, and insist that it is the most efficacious treatment for this painful affection. My individual observation of its application to this disorder does not corroborate this high estimate of its curative agency, yet I have employed it in neuralgia with benefit.

There is a complication of pectoral with enteric disease, known generally as typhoid pneumonia, in which a combination of the spirits of turpentine with camphor and carbonate of ammonia has acted magically in a considerable number of cases, and I rely upon this mixture very much in typhoid fever, uncomplicated with the pneumonic symptoms. The spirits of turpentine forms the basis of a cough syrup which has been attended with benefit in chronic catarrhal affections; and, indeed, it works well in all derangements of the mucous membranes, as well as in most of those involving the serous membranes.

It is owing to its property of stimulating the capillaries that it serves a good purpose so frequently as a surgical dressing, and its antiseptic qualities cause it to arrest any degeneration in the adjacent tissues when applied to punctured wounds, even correcting the dangers resulting from dissection wounds or other septic contamination.

IV. GENERAL MEDICINE.

Overdraft of Vital or Nerve Power as Affecting General and Special Health.

Dr. JACOB L. WILLIAMS thus writes in the *Jour. Am. Med. Ass.*, January 31, 1885.

The relation of reserve strength or nerve power to the general health, and to the harmonious working of all the functions and faculties, every practitioner has constant occasion to observe. To him it is a great source of reliance for continued health, and for permanent remedy of abnormal conditions of organs.

The abnormal conditions of different parts of the body have given rise to the various specialties in practice, all, when properly considered, having their relations to the general controlling laws and forces of the system. The question may be asked whether, in some departments of special practice, these general laws may not sometimes be too little thought of in all-absorbing attention to local disease?

The relations referred to, it may be proper for the various specialties to elaborate and demonstrate each for itself. My present purpose is to make a few suggestions in regard to the influence of reserve nerve force, and the want of it, on some conditions of the oral cavity. I say *reserve* nerve strength, for that is what must be drawn on in any contest between health and disease.

It is not by a brilliant display of activity, or temporary fortification with artificial tonics alone, that a lasting victory will be gained for health against persistent disease, unless there be within call additional supplies of sustaining and restorative vitality, to meet readily any demands of the case.

There is no doubt that a large proportion of people in the artificially active life attending our civilization are maintaining an appearance of fair health, while using up all the nerve strength they have every day, leaving practically no reserve, and liable to succumb, as they are constantly doing, at any extra emergency or strain.

Indeed, in observing the dental and oral health of individuals, how constantly do we see *persistent* abnormal condition, which I think can only be accounted for from this fact. Such overdraft may be from a constitutional disposition to activity that might be called a nervous diathesis, or from obligatory or voluntary over-effort for an object, or from some diseases or conditions of the system drawing greatly on the vital force.

Take the very common case of the business or professional man who, from overwork, becomes dyspeptic. He is advised to "be careful of his diet," and so forth, which advice he follows punctiliously, still, however, keeping up his usual habits of work, and the dyspepsia is cured. The digestive secretions are not in

condition for the healthy and comfortable performance of their office. Then rest is directed, and if he takes it in the right way, he becomes better.

Now, the idea is not only rational but it seems capable of proof, that not the gastric fluids only, but the secretions of other parts of the digestive system, are abnormally affected by the same causes.

In such a case as referred to, a greater or less tendency to an unhealthy condition of the oral secretions may be found, which also holding in solution fermentive material, must, as a chemical necessity, sooner or later cause damage to the dental organs.

It may be observed that his abnormal state of the oral fluids most commonly follows a continuous rather than temporary over-strain, though I have seen cases of very rapid results from great nerve exhaustion.

I would suggest that the condition of the teeth in regard to the degree of their tendency to decay might be one aid, if only as confirmatory, in diagnosis of obscure nervous affections.

This relation of cause and effect I have repeatedly seen strikingly illustrated in young persons, who are more readily susceptible in this respect than adults; so that I now commonly expect to find more than greater activity of disease in the mouth of young scholars in the spring and early summer, after a winter season of unremitting application to study and exciting amusements, than in the autumn, on their return from a summer's vacation of leisure and rest. There may be no external appearance of variation from standard health, but the greater or less softening of the teeth is very sure to be seen.

A Child's Teeth.

GEO. BEERS, L. D. S., thus writes in the *Independent Practitioner*, February 1885:

For many years I have been specially interested in the study of the predisposing causes of caries in children's teeth. It is a subject we can never investigate sufficiently, until we stop guessing and are able with certainty to tell why *decay during growth* should confine itself to the teeth as a rule, and until we know what mother and child are to do in self-defence. I might repeat a good deal I have said elsewhere, but among a large record of cases faithfully examined, and whose family history I have endeavored to trace, I have selected one of the very worst cases I ever met, that of a young girl aged twelve years.

The following description will hardly speak for itself, as it does not tell of the structural poverty, the thinness of enamel, the almost plaster of Paris character of the very dentine.

In the superior teeth there are twenty-three fillings, upon all the different surfaces of the teeth. Some of the cavities are of the most extensive character, involving nearly the whole of the crown. There is but one undecayed tooth, a cuspid, and this gives indications of approaching disease. In the inferior teeth there are fourteen fillings, with but four sound teeth, and these only comparatively so. Thus there are found in the twenty-eight teeth of this patient thirty-seven distinct cavities.

The mother of the child recently died, but from the father I obtained the following particulars: The mother did not suffer from any disease during pregnancy,

except the ordinary attacks of nausea, so common at that time. These lasted almost six weeks, and did not cause as much suffering as during a former pregnancy. The mother's health was never very good. My little patient was quite free from the usual diseases of children until the winter of '78-'79, when she was seven and one-half years old. She then had scarlet fever. About three or four years ago she had measles. The parents had been very careful never to overtax her physical or mental strength, and everything that attention and care could accomplish for her was always done.

On her mother's side the family history of health is not good. The mother very nearly died of peritonitis when the first child was born. Seventeen months after, my patient was born, and the mother was able to nurse her, and was in the enjoyment of rather better health than she has ever had before or since. The first child died in October (1871), after my patient's birth. Two other children died, each a few months old, one in 1873, the other in 1875. The mother died after a prolonged illness, of asthma, last year. The grandmother on the mother's side was a confirmed invalid for a great many years. Her teeth were never good, owing, it was thought, to excessive doses of calomel, etc. The great-grandmother on the mother's side also suffered for many years from asthma, though she lived to old age. On the mother's father's side the antecedents are good, and also on the side of the father.

Now, I think in tracing family history in this way we get to the only true—the embryonal—cause of the extraordinary condition of my little patient's teeth. Through the blood of the mother the teeth of the child are influenced. The more I study cause and effect in this connection, the more impressed I am that we want a new departure in physiological science; the birth of a new branch of medicine and dentistry almost exclusively devoted to embryology, that will educate the public to confide in it, or be advised by it. The mere filling of carious cavities in children's teeth, or even the administration of easily assimilated phosphates, or the direction of proper diet, are all on the late side. Family history must be traced before pregnancy if possible, and the embryologist must tell us what is to be done to divert hereditary tendencies, and to improve the prospects of the coming embryo.

Value of Inebriate Asylums.

Dr. JOSEPH PARRISH, of Burlington, N. J., thus writes in the *Quarterly Journal of Inebriety* for January, 1885:

It has been stated by the best authorities that at least thirty-eight per cent. of all cases of inebriety who go under treatment in inebriate asylums are cured. The question is often asked, is this a permanent cure? The answer is, that such a thing as a permanent cure of any disease cannot be honestly promised beforehand, or announced afterward, by any physician of his patients. The word is a misnomer in this intended application of it, but it has become the fashion among chronic objectors to the asylum treatment of drunkards, to use it, and it is repeated here only for the purpose of disclosing its absurdity, by presenting it in contrast with other diseases as follows:

Of how many cases of insanity, when they leave the institutions, can it be said their cure is permanent; that there is no possibility of a relapse? How many

criminals who are dismissed from the hands of justice, can be said to be reformed beyond the possibility of future failure? How many converts to religion, are so permanently established that they cannot fall? It is not in the power of man, safely to assert any such result of his own finite work. It may be stated, however, as a general fact which challenges scrutiny, that the cures of intemperance may be as sure and reliable as any other forms of disease that present equally acute and complicated symptoms.

Inebriate asylums have demonstrated a few facts, at least, which cannot be gainsaid. Many intemperate men, who have entered them voluntarily, and conformed to their teachings, have gone forth to the world, stronger and better than before, and are still pursuing sober and useful lives, in at least the proportion above stated. One man out of three has been saved, and this against strong adverse circumstances, in most cases. It has been shown, also, that there are not a few cases of incurable inebriates, which may remain quietly and soberly within institutions, for years together, and thus shield themselves from the risk of debauch, and their families from annoyance and danger. It is also proved, that asylums are a constant public rebuke and warning to the people on the subject, which has a deterrent influence in favor of temperance.

There are many persons who have been inmates of such institutions, who are among our most valuable citizens, and who, from the very fact of having voluntarily made public confession of their infirmity, by seeking asylum treatment, and equally public confession of their recovery, do not intend to falsify either the fact of sincerity in making the effort, or of earnestness in pursuing their sobriety, by any inconsistency in this regard, if it can be avoided. There are, on the other hand, many who are professional debauchees, whose other disorders are covered under the more visible fact of drunkenness, and who are more suited to corrective institutions, than to insane or inebriate asylums. Their chief purpose is self-indulgence. They are constitutionally disordered and defective, and care but little for anything that does not pander to the gratification of a low nature. Such are not inebriates in the sense that is recognized by those who have given the most thought to this subject; and as elsewhere indicated, this discrimination should be recognized and maintained, by all who have to do with such persons, either in the departments of medicine, jurisprudence, or morals. Through the agency of inebriate asylums, there has been not only a more critical study of inebriety, but a more clear and satisfactory distinction in the varieties of its forms. More valuable additions have been made to the literature of the subject during the past few years than for a generation preceding.

That inebriate asylums can improve in their methods, if they would realize their highest ideals, is admitted, but it is asserted without fear of contradiction that new and imperfect as they are said to be, they have accomplished larger and more practical results with this class of subjects than any system within the knowledge of the age.

It is well known that there are some drunkards who "recover naturally," that is, of their own unaided efforts. They "work out their own salvation" in this matter, and are among the heroic men of the times. It is said that they constitute about three per cent. of the inebriate class; about ten per cent. of the reformations are claimed by temperance societies, and it seems to me that they are

entitled to this award, in addition to the quiet family work that is being done, under their influence, toward prevention.

These facts, taken together with the fact that inebriate asylums, homes, and reformatories record at least thirty-three per cent. of their cases restored, and that the public sentiment is strengthening every day in favor of sobriety and virtue, there should be no cause for discouragement in any quarter, nor for any other rivalry between the different methods than that which is born of high purpose, and earnest effort to accomplish the most good for the individual and the general public.

On Life-Saving from Drowning by Self-Inflation.

Dr. HENRY R. SILVESTER, thus writes in *The Lancet*, Jan. 3d, 1885: The reduction of the specific gravity of animal bodies by means of hypodermic inflation is a subject which has for some time engaged my attention. I have endeavored to elucidate it by an experimental inquiry, my object being to diminish the great mortality from drowning. From the earliest ages attempts have been made to render the human body capable of floating in water; but these efforts have mainly been in the direction of attaching to the body, when immersed, various substances of less specific gravity—such, for instance, as the inflated skins of animals, life belts, etc. Atmospheric air, from its extreme lightness,—namely, 815 times lighter than water—has been most frequently employed, but there has been some difficulty in finding a suitable envelope for containing it. It is atmospheric air which is universally employed by nature to produce buoyancy. Many fishes possess hollow sacs filled with air, and these sacs are developed occasionally from the ventral, though more commonly from the dorsal wall of the pharynx, œsophagus, or stomach. In the Teleostei the membrane lining the branchial chamber is prolonged into sacs, which lie at the sides of the body. The Diodons and Tetrodons render themselves buoyant by swallowing air, which filling the first stomach, they become inflated like a balloon. In the case of birds there are in some as many as nine air sacs, two of which are situated in the cervical region—whilst in some of the Lacertilia the membrane of the larynx between the circular cartilage and the first ring of the trachea protrudes in the form of an air sac.

It will be within the recollection of your readers* that I have already demonstrated, at the International Fisheries Exhibition, the possibility of inflating the subcutaneous space in animals, so as to render them sufficiently buoyant to be employed either singly or yoked together to convey persons from a wreck to the coast; but since animals are not always present in cases of shipwreck, and human lives may be saved by being enabled to traverse a few yards of deep water, I have demonstrated the possibility of producing in man himself the condition known as surgical emphysema. In August, 1883, at King's College Hospital, by means of a blowpipe and elastic syringe, I inflated at the wrist the subcutaneous tissue of the whole body, with the result that in a few minutes sufficient air passed under the skin to support a weight in water of between forty and fifty pounds. This amount is considerably more than would be required to preserve a person from drowning, nine or ten pounds being considered sufficient. Al-

* Vide *The Lancet*, July 7th, 1883, "Hypodermic Inflation."

though one can imagine the existence of circumstances which would justify such a proceeding as the above, yet the practice of it would require a certain amount of surgical knowledge. Moreover, it would be impracticable except under favorable circumstances; and there are probably few persons capable of accomplishing it in their own bodies. I have accordingly sought for a much easier and more ready means of rendering the body buoyant in water, and which could be accomplished without the employment of any apparatus, and, in fact, which might be performed without assistance in a moment, under the most adverse circumstances, and by the most ignorant, if once instructed in it, and without danger or pain, and suitable alike for the roughest sailor or the most delicate female.

The intention of the proposed operation is to cause the skin of the neck and upper part of the chest to be sufficiently distended with air to support the weight of the body when immersed—the inflation being effected by the person himself by means of his lungs without the intervention of appliances. The operation consists in making a small puncture—not larger than would allow, for instance, of the passage of an ordinary blowpipe—in the mucous membrane of the inside of the mouth, the object being to open a communication for the passage of air from the cavity of the mouth into the subcutaneous spaces of the neck. The situation chosen for the puncture is in the angle formed between the gum of the lower jaw and the side of the under lip or cheek, about opposite the first molar tooth of the lower jaw. The point of the instrument perforating should be passed down a short distance between the skin of the side of the face and the superficial fascia of the neck, its point being guided by the finger placed on the outside of the face and neck, taking care not to puncture either the skin or the superficial fascia. This having been done, and the instrument removed, in order to inflate the skin of the neck and chest, the patient should close the mouth and nose, and make a succession of forcible expiratory efforts, when the air contained in the cavity of the mouth will pass freely into the subcutaneous tissue of the neck. These expiratory efforts, inspiration being effected through the nostrils, should be continued until the skin is fully distended with air, which will pass readily to both sides of the neck and down the chest as far as the nipples; and this is all that is required to render the body buoyant in water. Should it so happen that the superficial fascia has been punctured and the air pass beneath it, the only difference in effect would be that the extent of air would be limited by the attachments of that membrane to the clavicle below and the border of the jaw above. The amount of air which the skin of the average neck is capable of holding without undue distension has been measured, and found to be enough to support ten pounds, and this is amply sufficient to support the body immersed in water. The time required for inflation is found to be less than three minutes. The neck may be kept in an inflated condition by closing the puncture by pressure on the outside of the cheek by the finger, or by keeping the mouth distended with air; and when required the air may be immediately discharged from the neck by allowing the puncture to remain open, or by suction.

The advantages may be summed up as follows:

1. The proceeding is perfectly harmless and almost painless, quickly done, and almost immediately recovered from.

2. It may be learnt in a few minutes, no technical knowledge being required, and may be accomplished by the person himself without assistance.

3. No special apparatus is required. In an emergency the point of a penknife, or even a sharp-pointed splinter of wood, is all that would be required. The inflating apparatus is the person's own lungs.

4. The air could be repeatedly reinflated, and even during prolonged immersion.

A Note on Coma.

Dr. WM. S. SAVORY thus writes in the *London Med. Times*, January 10, 1885. What is to be understood by coma? It would, I think, be difficult to find another question to which such various answers have been given. Take a dozen of our most popular works on medicine and surgery, and not two of them will agree in their definition or description of coma.

Is there not some confusion, then, in the current view of coma? The state commonly so called may be due to various causes. In the practice of surgery the cause most commonly associated with coma is compression on the brain; and such pressure may be produced in several ways—by a depressed fracture of the skull, by extravasation of blood, by the presence of pus or other products of inflammation. But again, coma may be produced by adulteration or poisoning of the blood by various agents, as by carbonic acid, opium, alcohol, ether, or chloroform, and by different animal poisons.

Now, are these several causes, apparently so different in their nature, connected by any common principle of action? In the first place, how does pressure act to produce coma? In its severer forms no doubt, if not by producing distinct lesion, at all events by disturbing the structure of the brain, so as directly to interfere with the due performance of its functions. But short of this extreme effect, it may act upon the cerebral circulation so as to produce anæmia by pressing out the blood. In this view, as Hutchinson says, a squeezed brain is an anæmic brain, or as Dr. Johnson says, pressure may thus act by the exclusion of oxygen, which comes very much to the same thing. In other cases, again, pressure may interfere with the circulation by obstructing it, for after death in many instances evidence of congestion and engorgement is very obvious, while there is no appearance of anæmia; and coma may be directly induced by obstructing the return of blood from the brain.

In one way the several causes of coma which have been enumerated may be brought into relation with each other; for by depriving the brain of a due supply of healthy blood, they all act by effecting its nutrition.

But in this view a further difficulty presents itself. Is the condition due to simple anæmia, or does exclusion of oxygen always cause coma? If so, then the definition of coma must be vague and inconclusive indeed. So by many it is taken to mean merely a suspension of consciousness—nothing more definite than deep insensibility. Thus not only would coma acknowledge widely different, and even in one sense opposite causes, but the term must include states which are surely pathologically distinct. It is indeed quite clear that the symptoms of the state which is generally described as coma are in different instances widely different.

In one class the patient lies insensible with all the signs of defective aëration

of the blood. The surface generally, and the face in particular, is turgid and dusky, the veins engorged, the respiration slow, laborious, and stertorous, the pulse full and perhaps strong. In another class the patient lies insensible, with all the signs of defective blood supply, which is especially marked in the pallid and shrunken features, the shallow respiration, and the feeble pulse. In fact, if such a broad and inclusive definition of coma be accepted, the distinction between coma and the effects of concussion or shock must become obscured. According to the present view, cases are included in the term coma so various that they are connected only by the common condition of insensibility.

Now, I suppose that all will agree that affections of the brain, whether arising from injury or otherwise, may prove fatal either by interfering with the mechanism of respiration so as to produce asphyxia, or by interfering with the action of the heart so as to produce syncope; these being the two modes of death through the brain which have been so graphically described by Watson. No doubt each of these results may be brought about by causes very different in their nature; but however widely the several causes may differ among themselves, they admit for the most part of being arranged under one or the other of these heads, according to their effect or tendency. That death by coma is death by asphyxia, by causes acting through the brain, has been long laid down; but surely a strange element of confusion is introduced when coma is defined simply as insensibility, without qualification or reference to its cause. As a clinical fact states of insensibility the result of injury or disease not unfrequently occur which are called coma, but in which nevertheless the tendency to death is not by asphyxia.

If, then, the term coma is ever to come out of this confusion with a definite meaning, it seems to me that we must be guided in its application by the direction in which the danger to life lies. At present it is used in too inclusive a sense. It is applied to states characterized by very opposite symptoms during life and by very different conditions of the brain disclosed after death. It comes, therefore, to be practically of little value. To say that a man is comatose is to say only that he is in a state of insensibility which is not ordinary sleep. But in these cases it is generally quite possible to discover the direction in which there is danger to life, to what degree the signs of impending apnoea prevail; and this, in regard to the management of the case, is oftentimes the most important question to answer. The main objection to the more restricted application of the word arises in another way. The relation of intercranial lesions to asphyxia—as well as to other results—depends largely upon their place, upon their proximity, of course, to the respiratory centres. So lesions of the base of the brain are in this way more immediately dangerous and rapidly fatal than are those of the upper portions of the hemispheres. But, after all, even this becomes a question only of degree. As a clinical fact, lesions in various places may prove fatal sooner or later by this mode of death.

Again there can be no doubt that mixed conditions are often, nay usually, met with; cases in which the tendency to death is by no means in one direction only. Cases not unfrequently occur in which it is impossible to tell whether the danger is greater from defective oxygenation of the blood, or from failure of the heart's action, and we all know very well how each evil will react on the other until their effects become blended beyond all possibility of distinction. But

surely this only makes more manifest the need of carefully drawing, when practicable, the distinction between these different sources of danger. By studying each as it acts alone under the simplest conditions, we shall be better able to unravel the phenomena of the more complex states.

To associate the term coma—a state of insensibility from which the patient cannot be completely aroused—with that condition in which there is a tendency to death chiefly by asphyxia, appears to me to be strictly scientific and immediately practical; but it is of great importance to remember that at present the term is often applied, even by high authorities, to states of insensibility tending to death rather through failure of the action of the heart than by obstruction of the lungs. Under the head of coma are at present included states not only due to very various causes, and in their nature pathologically quite distinct, but which produce effects of a totally opposite character.

We should do well, I think, to recognize more distinctly a state of unconsciousness after injuries to the brain which belongs neither to compression nor to concussion, properly so-called. No doubt it most frequently supervenes on concussion, but it presents characters widely different from those of shock. It is indeed generally recognized and usually described as the result of shock; as a continuance of the state of concussion; but it is associated with a condition very different from that which is usually understood to pertain to shock. A man receives a severe blow on the head, and he is found pale, cold, almost pulseless and insensible. This is concussion, properly so-called. But in a few hours he has almost recovered. His pulse is of fair volume and strength, and he is warm, and withal quite sensible, and in a few days he is well again. But in another case a man in a similar state of shock after an injury recovers his pulse and temperature, all the signs of depression disappear, and yet he passes many subsequent days in a state of unconsciousness. He is insensible to all external impressions. He cannot be aroused at all, or only with extreme difficulty for a moment or two. He lies hour after hour, day after day, in a state apparently of sleep, but which differs from sleep in that you cannot awake him, yet beyond this you can discover nothing unnatural in his general condition. He takes sufficient food when it is placed in his mouth; his secretions are natural and duly, though unconsciously, discharged. To call this a state of shock is to abuse the term. Neither can it be called coma, unless coma be held to be merely synonymous with insensibility, which seems to me to destroy all its force. If pressed for a term I would call it stupor, except that stupor, when employed at all, is put in the place of coma. But the far more important question is, what is the actual condition of the brain in such a case? That it cannot be due to any serious lesion of any kind seems proven by the fact that recovery is for the most part a matter only of days. In some of these cases we may reasonably conjecture that the brain is bruised, not with considerable extravasation in any one place, but, perhaps, with numerous spots of ecchymosis scattered throughout a region. And such instances are, I fancy, often marked by much restlessness. This view derives support from what is sometimes found after death. But again, in many cases it is probable that the mischief does not extend so far as this; but rather that the injury has disturbed the substance of the hemispheres, and thus for a while struck out their functions, as a blow, by the molecular disturbance it produces, will deprive a magnet of its powers. Anyhow,

such cases as these, in which life is not directly threatened in any particular direction, which are associated neither with the symptoms proper to concussion or compression, nor, indeed, with any symptoms whatever beyond mental ones; such cases, it appears to me, should be carefully separated, and are well worthy of attentive study as a distinct class.

Some Important Points in the Study of Yellow Fever.

The *London Med. Record* tells us that Dr. DAGINO, practicing in Maracaibo, Venezuela, in which town yellow fever is endemic, finds that all unacclimatized new-comers are equally liable to contract the disease; and this whether they are Europeans, native Indians, or inhabitants of the provinces of the interior. If anything, the native Indians, on coming to the town, suffer most, though they may come from a hotter locality. The lake of Maracaibo is 120 miles long from north to south, and its coast-line is little less than 300 miles. On its banks are many towns and villages. Maracaibo is situated on the mouth of the bay of that name, on the west coast. The next most important town is Altagracia, situated on the opposite bank. Yellow fever never arises except in Maracaibo. The focus of the disease seems to be on the shore adjoining the city, where all conditions favorable to the decomposition and fermentation of the animal and vegetable refuse of the town exist. The shore opposite the city, Los Haticos, only a few minutes off, and occupied by villas and pleasure-houses, is perfectly healthy, and new comers may live there safely. Jaccooud says that yellow fever never arises in coast towns of less than 6,000 inhabitants, and this certainly holds good of the lake of Maracaibo. The origin of yellow fever is essentially distinct from marsh fevers. It is contagious; one attack generally gives immunity. In marshy regions, where malarial fevers reign, yellow fever either does not exist, or occurs at different times from the paludic fevers.

Hysterical Pyrexia..

The *Lancet*, February 28, 1885, says that ancient authors used to allow the existence of hysterical fever, and though this idea has been ridiculed by modern authorities, yet recently M. DEBOVE has advocated it afresh. He believes that he has seen several examples of it, although where febrile movements are recorded in hospitals for nervous females, we might suspect the onset of tuberculous disease. A case was narrated by M. Debove, which he watched for five years after the commencement of the pyrexia. The patient was twenty-four years of age, and had suffered from neurotic disturbances ever since the age of seven years. Three years ago she suffered from a severe febrile disturbance, which exhibited the three stages of cold, heat, and sweating, very clearly; since that time the temperature, taken at regular intervals, has never been below 100° F., and two or three times a week the temperature has intermittently reached to nearly 104° F. The possibility of malaria was excluded by M. Debove, on the ground that the spleen was not enlarged, and that quinine had no influence over the fever. Deception seemed to be out of the question, as M. Debove himself took the temperature on several occasions. The question was discussed at the Académie de Médecine whether in hysterical individuals the heat centres might not be functionally disturbed, thereby occasioning the alterations in the normal heat of the body—whether, in fact, hysteria of the thermic centres is possible.

Alleged Dangers in the Use of Corrosive Sublimate as an Antiseptic Agent.

From the *Lancet*, Feb'y 28, 1885, we learn that Dr. FRAENKEL, of Hamburg, draws attention (*Virch. Arch.*, 99, ii.) to an almost unsuspected danger arising from the too free use of corrosive sublimate as an antiseptic agent. His remarks are in the first place based upon a case recorded by Stadfelt of death with dysenteric symptoms following upon intra-uterine injection of a solution of sublimate (1 in 1500) after adherent placenta, and are supported by the results of post-mortem examinations of surgical cases in which this solution was employed. In all these cases (fourteen in number) severe ulcerative lesions were found in the large intestine, but Dr. Fraenkel admits that in only two of these could the lesion be said to have caused the death of the patient. The appearances presented by the diseased bowel resembled those of acute dysentery—viz., more or less extensive areas of necrosis of the mucous membrane, with intense surrounding inflammation. He combats the notion that the intestinal lesions depended on septicæmia, mainly on the ground that in no case were any other of the lesions characteristic of septicæmia or pyæmia present, nor did the cases run the clinical course of blood-poisoning. Although the paramount value of corrosive sublimate as an antiseptic must be admitted, its employment is nevertheless not free from risk. Its immoderate use as an external application is liable to excite the diphtheritic-like inflammation of the large and sometimes of the small intestine, which is recognized clinically by tenesmus, colic, and bloody stools. But so far the renal changes supposed to be characteristic of sublimate poisoning have not been observed in surgical practice. The intestinal affection is most liable to occur in individuals whose nutrition is defective, or who are very fat, especially those with fatty hearts; and particularly if the sublimate has been in contact with large exposed and absorbing surfaces, as the peritoneum or uterus; therefore care should be taken to use only the weakest solutions consistent with their antiseptic property, and especially not to use them too frequently as intra-uterine injections.

Hereditary Locomotor Ataxy.

Before the Royal Medical and Chirurgical Society (February 24, 1885), Dr. ORMEROD read a paper on this subject. 1. The symptoms which distinguish the so-called hereditary ataxy from ordinary tabes were stated as follows: Occurrence of the disease in many members of one family—onset early in life, uncomplicated at first by pain, or by other of the multiform symptoms of tabes—occurrence, later in the disease, of disorder of speech and of nystagmus. 2. Clinical histories. (a) From a family of seven children (the mother had had fits, the mother's sister was insane, and her father was probably ataxic) three cases were given. Case I. A girl, onset accompanied by choreic movements; unsteadiness in walking, increasing till she now cannot stand alone, occasional fainting fits, finally some muscular weakness of legs, rigidity at ankles, club-feet. Case II. Boy, slowly increasing unsteadiness of gait, a few giddy attacks, finally, slight affection of speech. Case III. Young woman, onset much as in case I.; in addition, lateral curvature of spine, slight ptosis, occasional squint. (b) In a family of nine children, where no nervous disease could be discovered in parents or grand-parents, there were three, or possibly four cases, two of which were de-

scribed. Case IV. Female, aged 20; unsteadiness since aged 13, worse since low fever two years ago; now unable to walk without support, slight muscular weakness of legs, shooting pains last year, speech doubtful. Case V. Female, aged 16; case similar to her sister's, but less advanced; no muscular weakness, no pain, anæmia, attacks of headache with vomiting. Patellar-tendon reflex absent in all four cases, and apparently in some other members of the family as well. 3.—Some remarks were made on the ætiology of the disease. Other nervous diseases which attack families were compared with it, and other factors which might assist in its development were noticed. (1) puberty, (2) acute disease.

Dr. Althaus had been interested in the paper, which dealt with a subject on which we had very insufficient data at present. He distinguished between this disease, which was formerly called hereditary ataxia, and the ordinary locomotor ataxia, of which there was no direct transference from parent to offspring, and very rarely indeed any special hereditary antecedents. The pathology of the diseases was also different: for the present the term Friedreich's disease was the best, as it in no way committed us to a pathology; as far as was known at present, the lesion was more diffuse, affecting the central grey matter and the lateral tracts, as well as those which were known to be affected in locomotor ataxia. The clinical symptoms also varied, as shown by Dr. Ormerod's cases. The ætiology was different, tabes occurring in consequence of conditions present in the patient; while Friedreich's disease seemed to depend on conditions which were inherited from the parents. Especially habitual alcoholic excesses in the parents seemed to be a strong predisposing element.

Dr. Buzzard agreed as to the differences between this disease and progressive tabes. He had himself little or no personal experience to give, not because he had not seen cases, which he believed were common enough, but because he had not recognized in them the essential nature of the lesion. Some, in the early stages, were thought to be of a hysterical nature, and treated as such, possibly to their detriment. He had been struck by the absence of sensorial lesions, and also by the part which an antecedent acute disease seemed to play in the causation of the disease. The importance of diagnosis was considerable; he thought there must be peculiar family proclivity.

Mr. R. W. Parker asked whether the children, when infants, had been brought up artificially or suckled, and whether there had been any indications of rickets. The children seemed to have come of mothers who had had large families rapidly, and the disease, like rickets, appeared in some cases to have followed an attack of acute disease, conditions favorable to the production of rickets. Could the disease possibly be an exaggerated and unusual manifestation of the nervous phenomena so common in rickety children?

Dr. Fowler related some cases occurring in a well-to-do family; the disease had come only gradually; there were no lightning pains, no pupil abnormality, but in all the cases there seemed to be a strong neurotic family history.

Dr. Ormerod replied: he gave additional evidence in favor of the hereditary nature of the disease; and as to the pathology he was rather inclined to think the ataxia, which was an early sign, pointed to the probability of the lesion being due to some initial conditions in the posterior columns of the cord.

V. CLINICAL MEDICINE.

Convalescence From Long-Continued Broncho-Pneumonia.

Before the New York Clinical Society (*N. Y. Med. Jour.*, January 24, 1885), Dr. L. EMMETT HOLT related the case of a child, three years old, of good family history, who suffered with whooping-cough during the past summer, followed by the development of broncho-pneumonia in the autumn. Ten days after that measles appeared, which was soon complicated with broncho-pneumonia on the other side. Two weeks later a second eruption appeared, bearing a strong resemblance to that of measles, but accompanied with sore throat; and thereupon the pneumonia began to extend. After ten days desquamation set in, showing the scarlatinous character of the second eruption. After the scarlatina, general furunculosis manifested itself, and twenty boils were opened. After two months and a half of broncho-pneumonia, the child was now convalescent. This was one of those peculiar cases in which pneumonia hung on for months without developing into phthisis.

Treatment of Influenza and Catarrh.

Dr. ALFRED KEBBELL thus writes in the *Brit. Med. Jour.*, February 28, 1885 :

The great value of the tincture of benzoin, in the treatment of influenza and common nasal catarrh, I do not find mentioned in any works on medicine that I have searched. The tincture should be inhaled directly from a bottle containing it. Long inspirations should be made through each nostril separately, the finger being placed over the opposite one. If this be done at the commencement of the complaint, at the time when the nares and soft palate feel so uncomfortably hot and stuffy, relief is speedily obtained, the nostrils become cool and clear, and the mucus takes the character of that which is ordinarily expelled at a week's end when the disease runs its course. I have now used the tincture for about three years, and, in my own personal experience, I never knew it to fail but on one occasion, when the catarrh was of unusual severity, and then the symptoms were much mitigated. I quite accidentally discovered its value when dispensing in my own surgery, suffering from a catarrh at the time; and, having a liking for the smell of benzoin, I took several long whiffs, and found shortly after, to my surprise, great relief to the unpleasant symptoms. The successful treatment of so simple a complaint may appear hardly worth notice; but those who suffer repeatedly from it will be ready to try almost any treatment which is likely to give relief. I hope that those who may feel inclined to give this remedy a trial will publish their experience.

Treatment of Cholera.

The *Med. News* January 31, 1885, says that: As the result of extended obser-
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vations upon Asiatic cholera, made during the recent epidemic, Dr. OSCAR GIACCHI gives, in the *Gazzetta Medica di Torino*, of December 24, 1884, the following conclusions as to the best treatment of the disease:

1. In true Asiatic cholera, when once an algid condition or a state of asphyxia is present medication is useless; or, at least, is no more to be relied upon than are the simple natural powers.

2. Medication in the first stages of the disease, when the infection has not yet poisoned the blood and prostrated the nervous system, is often effective.

3. Laudanum is the remedy *par excellence* in the disease, perhaps the only one which will control the intestinal watery discharges due to intestinal hypersecretion.

4. Stimulants generally, and alcohol in particular, are valuable as a means of support till reaction has set in.

5. Notwithstanding the doubtful results of treatment of the disease in the advanced stages, all symptoms should be met as they arise.

6. A symptom most important to recognize, is the algid state which precedes central paralysis. In this condition, the hot bath must be resorted to, and renewed as often as required; likewise stimulants, alcoholic and non-alcoholic; and artificial heat should be used.

7. After the advent of the algid stage, vomiting usually follows, which further prostrates the powers of the patient, and, by preventing the retention of medicines in the stomach, diminishes the chances of recovery. The best remedy for this condition is chloroform, in doses of from twenty to thirty drops in some stimulating vehicle, or mixed in effervescing lemonade.

8. Cholera which has completely developed cannot be directly cured by any means, and should not be treated by theoretical specifics.

9. Prophylactic measures, during the presence of an epidemic, to prevent the spread of the disease, are better than medical treatment, however skillfully directed.

Note on the After Treatment of Scarlet Fever by Scalded Oatmeal.

Dr. GEORGE SMITH thus writes in the *Bristol Medico-Chiurgical Journal*, Dec. 1884:

As the heading of this note implies, it is intended here to treat of the subject of the desquamation which follows every case of scarlet fever, however slight, both in regard to its bearings on the patient himself, and also those with whom many cast-off particles may come into contact.

Take first the process of desquamation. This, as we all know, varies very much in different individuals, and sometimes it is done by particles so fine as to be hardly preceptible; and these are, I think, a very frequent and most certain source of contagion, by means of clothes and otherwise—much more so, indeed, than the scales as ordinarily thrown off; and I may here state that it is within my own knowledge that the contagion has been thus carried from one house to another, more than a hundred miles apart, at the end of at least a year from the attack.

Now, to obviate this danger, I have for several years been in the habit of hav-

ing my patients sponged over the whole surface of their bodies twice a day—commencing, as a rule, about a week from the appearance of the eruption, and continuing the process until desquamation is complete—with a mixture of one ounce of oatmeal to one pint of boiling water; the solution to be made fresh every day and used tepid, or at such a temperature as may be comfortably borne by the back of a finger.

My reason for using this particular combination is, that the gluten in it sticks the scales to each other and to the surface of the body, thus allowing of their being removed from one sponging to another, without the ordinary risk of infecting either atmosphere or clothes, and greatly lessening the risk of spreading the disease.

Secondly, this same gluten fills up the cracks of the new skin and protects it from cold as, patch after patch, it becomes bare, and thus, to say the least, greatly lessens the risk of the dropsy which so often follows upon this disease.

Acute Neuritis.

Dr. JAMES WEIR thus writes in the *Louisville Med. News*, January 10, 1885: Acute neuritis is comparatively a rare disease. During the eleven years I have been connected with the practice of medicine, with all the opportunities afforded by hospital work both in New York and St. Louis, I have only met with four cases, three of these traumatic, one idiopathic. Acute neuritis rarely ends in complete cure. Mitchell goes so far as to intimate that there is never complete resolution. Jaccoud says that it "terminates either by cessation of pain and return of normal functions of the nerve involved, or by supervention of permanent anæsthesia or paralysis, or both." In the following case there was complete resolution.

On October 29th, Richard M., a street-car driver, consulted me for what he termed erysipelas. He had consulted a physician before coming to me, who had pronounced his trouble erysipelas. On removing the bandage in which his hand and forearm were swathed, I found the following condition of things: Commencing at a line drawn from the metacarpo-phalangeal joint of the second finger to the wrist, and embracing the area between this line and the outer aspect of the thumb, was a well-defined swelling with marked anæsthesia. The thumb, first finger, and second finger, were partially flexed and completely paralyzed. Commencing at the wrist and extending up the arm, three and one-half inches in the inter-osseous space, was an oblong tumor about the size and shape of a small (*Wiener wurst*) sausage. On pressure a hard, cord-like substance could be felt extending through the entire long axis of the tumor. Pressure on this cord greatly augmented the agonizing pain which he was suffering. The skin was distinctly red over the entire swelling. I at once diagnosed the case acute neuritis. I was bothered at first to locate the nerve. The radial nerve turns outward beneath the supinator longus to reach the back of the radius, about three inches above the wrist. The swelling commenced at the wrist and extended up for three and one-half inches. I am certain it was not the ulnar; the location of the tumor and the area of paralysis and anæsthesia precludes this possibility. It was either the radial located abnormally, or one of its branches enormously enlarged by the phenomena of inflammation. This could readily be, for in neuritis

both neurilemma and nerve elements are involved. A surface thermometer showed an increase of temperature over the part affected of fully half a degree. Temperature in axilla (side not affected), 101° F. Temperature over tumor, 101.5° . On questioning him closely, I found that two days before, while driving his team, he had his arm slightly wrenched or twisted by one of his mules falling and thereby jerking his arm, around the wrist of which he had wound his lines. He did not ascribe his trouble to this injury. I think, however, this was the cause.

I had always heretofore seen neuritis treated by cold applications. I resolved to depart from the old line and try iodoform. I had seen such excellent results come from the application of iodoform in orchitis and kindred inflammations, that I felt certain it would do good in this case. The result exceeded my greatest expectation. I ordered iodoform, zss , ether sulph., ʒj , to be painted over the part every three hours; quin. sulph., grs. iij , to be taken every two hours. He came to see me the following morning, and told me that his arm had ceased to pain him after the first application. I found the swelling diminished, and a slight return of sensibility and contractility to the parts affected. I saw him six days after on his car. He claimed to be entirely well; no numbness, no anæsthesia, and no paralysis. The only case of acute idiopathic neuritis I ever saw occurred in the service of Dr. Hodgen, of St. Louis, now dead. The nerve was a branch of the auriculo-temporal, and the patient was treated with quinine and cold applications.

Infectious Sore Throat.

Dr. HUGO ENGEL calls attention in the *Med. Times*, December 27, 1884, to the following points:

He holds that there are two forms of acute sore throat, the catarrhal and the infectious. In the first, abscess in on or both tonsils is common; in the latter it never occurs. In the former the inflammation, although it may be high, never assumes the angry, dark-red, shiny hue which is usually seen in typical cases of the latter. Further, while in both the tongue is apt to be heavily coated, in the catarrhal form, after the coat is thrown off, the tongue resumes its normal appearance; but in the infectious variety it shows the same fiery redness as the throat, being shiny near its point, resembling the strawberry tongue of scarlatina, and evincing a tendency to dryness. In the infectious form the patient, moreover, suffers from the beginning with a peculiar weakness or lassitude, which is never observed in the catarrhal kind. The infectious variety frequently makes its appearance in a house in which there is diphtheria, the same rheumatic symptoms and the same peculiar eruption which sometimes occurs in diphtheria making its appearance in it. Albumen may also be frequently found in the urine of patients suffering from it. These symptoms are never observed in connection with the catarrhal variety. This infectious form of sore throat is, in Dr. Engel's opinion, more frequently met with in females than in males. While he cannot fully subscribe to the opinion that it and diphtheria have a common origin, he still admits that appearances are suspicious. He, indeed recalls a case in which one of two persons sleeping in the same bed was attacked with this form of sore throat while the other was attacked with diphtheria.

Dr. ENGEL, in the treatment of these infectious sore throats, always commences with an emetic, and as long as vomiting and the coating on the tongue continue, he gives as little nourishment as possible. This irritability of the stomach and coated condition of the tongue usually last to the third day, when liquid food is commenced with, solid food being given as soon as it can be swallowed without causing pain to the throat. The following gargle, every ten or fifteen minutes, is beneficial:

R. Acidi salicylici,	3 j.	
Acidi carbolicl.	℥ xiv.	
Sodii boratis	gr lxx.	
Glycerini	3 j.	
Aquæ destillatæ	3 xj.	M.

Internally the following:

R. Quininae hydrochloratis,	gr. xxxvj.	
Tr. ferri chloridi	3 j.	
Acidi muriat. dil.,	3 ij.	
Tr. cardamomi comp.		
Glycerini.		
Syr. aurant. cort.	aa. q. s. ad. 3 iij.	M.

Sig.—Take a teaspoonful in a half tumbler of water every three or four hours.

The size and frequency of the dose should be diminished as soon as the tongue becomes moist, and the general condition indicates betterment. As soon as any symptoms of disturbance of the urinary function appear, he gives a teaspoonful of an infusion of digitalis every four hours.

Recovery from Acute Meningitis.

Dr. A. M. STALKER reports the following case in the *Lancet*, Jan'y 8, 1885: J. R—, aged eleven, mill-worker, was admitted on March 31, 1882, suffering from an illness which had commenced five days before. There was no history of illness or injury previous to this. The symptoms were pain and stiffness in the neck, especially on the right side, with general malaise and weakness. The boy's friends said he had been carrying unusually heavy loads on his shoulders two or three days before he began to complain.

State on admission.—Patient has a feverish look; lips dry and cracked; tongue dry, furred on dorsum, and glazed at tip and edges; appetite gone; bowels constipated, motions natural in color; some abdominal pain; heart and lungs normal. Pulse 108; respiration 28; evening temperature 103.4°. Pupils contracted and equal. Tache cérébrale brought out on abdomen and arms. Patient has tendency to delirium; never lifts his head, complains of frontal headache, cries out suddenly, the cry having a cerebral character. There are diffuse stiffness and pain in the neck, most marked on the right side. For some days the patient continued in much the same state, being generally delirious at night and quieter during the day. Bromide of potassium and opiates were given when necessary, cold lotions were applied continuously to the head, and a blister raised on the nape of the neck. Temperature in the morning 101° to 102°, in the evening 103° to 103.8°; respiration normal; pulse 112 to 120, regular. From April 9th to 17th there was some improvement, the pulse and temperature being nearer the normal,

and the patient being quieter. The pupils were now unequal in size, the right being larger than the left. At this time the temperature rose on two successive nights to above 104°. Croton oil was effectually applied to the back of the head. The symptoms showed general improvement, though slow, till the end of April, when the temperature fell to normal, and the other symptoms disappeared. Bowels remained normal all through. Dismissed on June 10th, quite well.

Remarks by Dr. SINCLAIR.—That the possibility of enteric fever was never seriously entertained will excite no surprise after a perusal of the clinical history of this case. Was it tubercular meningitis? Was it an instance of that malady which I am not alone in believing to be extremely rare—viz., acute simple idiopathic meningitis? Or was it a case of meningitis due to an obvious external cause? I must say that tubercular meningitis has never come forcibly before my mental vision in a case of this description, least of all, perhaps, in the earlier stages of its course. That the patient did not die does not by any means exclude the possibility of a tubercular origin; but the age was rather against such an explanation, because, although the disease sometimes occurs beyond the age of ten, it is much commoner before that age, and commoner still between the ages of two and five. It will be observed also that there was no prodromal stage, with its wasting of the adipose and muscular tissues, its languor, mental torpor, unstable emotions, and irritable temper. The pulse was never slow and irregular in the stage immediately succeeding the stage of invasion. The temperature at the time the patient came under observation and subsequently was nearly always too high for this explanation. The idiopathic theory seems to me untenable so long as any other agency can account for the morbid condition. We had here to deal with a previously healthy boy eleven years old. A sudden invasion, a well-marked attack of cerebral meningitis, probably an effusion of lymph, and a complete mental and physical recovery. We had a history of an unusually heavy load having been carried on the shoulders a few days before the onset of the attack; and this I am convinced gives us the solution of the difficulty. The unusual exertion caused, I believe, a determination of blood to the head, and initiated a sequence of events very similar to those which follow closely upon that vaso-motor paralysis which is apt to be induced by exposure to the direct rays of the sun or artificial heat. The recovery was complete, although slow. How much of the result was due to good nursing and careful feeding and how much to the local treatment I am not prepared to say.

The Treatment of Diphtheria.

Dr. J. K. MACCONNELL thus writes to the *New York Med. Jour.*, Jan'y 17, 1885: I have found the following treatment of diphtheria successful in sixty successive cases, extending over a period of four years. For an adult, I begin with the bisulphate of quinine, fourteen grains, and follow it up with eight grains every three hours until cinchonism is *very evident*. Subsequently I maintain *slight* cinchonism by three to four grains every three hours, for three or four days, or until the exudation disappears. Afterward I give eight to twelve grains a day, for about a week. I find that, in true diphtheria, it requires from two to three times as much bisulphate to induce cinchonism as in the malarial fevers or in health. In diphtheria, I have also learned to regard the sulphate of quinine as almost if not entirely inert.

For the local treatment, anti-bacterial and antiseptic, I use the following auxiliaries:

R. Sulphur half an ounce;
 Brandy,
 Glycerin,
 Water, each an ounce and a half.

Mix. A tablespoonful to be taken every three hours, just after the quinine. Also alternate with the following:

R. Chlorate of potassium three drachms;
 Boiling water three ounces;
 Tincture of aconite-root
 Tincture of camphor, each thirty drops;
 Tincture of chloride of iron a fluidrachm and a half;
 Glycerin a fluidounce and a half;
 Oil of cassia three drops.

Mix. A tablespoonful to be taken *exactly* every three hours, an hour and a half after the sulphur mixture. (The teeth should afterward be rinsed with a solution of bicarbonate of sodium.)

These solutions I give, in the doses mentioned, about two or three days, until the exudation begins to subside, and then in half-doses at the same intervals. I think it *very* important that the solutions be given not farther apart than an hour and a half. I write down the hours for them to be given, and have the patient waked up at the hours. I give smaller doses to children, according to the age. For a child eight or ten years old, I begin with eight grains of bisulphate of quinine, and then give four until cinchonism is produced. To a child two years old I give four grains, and then two, to cinchonism, as nearly as can be determined. Of the solutions, I give a child of eight years a dessertspoonful, diminished to a teaspoonful; to one of two years a teaspoonful diminished to half a teaspoonful; to one of a year, two-thirds of a teaspoonful, reduced to one-third. When the glands are swollen, I apply externally from two to four coats of tincture of iodine—as many as may be required to produce smarting—and I seldom have to repeat the application after it has once *smarted well*. I use no swab for the throat, and no hot applications for the neck. I give only warm or hot drinks—coffee and cream or soups—these acting as hot fomentations to subdue local inflammation.

With this treatment I have been so uniformly and markedly successful that a number of physicians have asked me to publish it.

Case of Scarlet Fever with Extensive Sloughing of Left Anterior Triangle of Neck and Exposure of Vessels.

Dr. A. GLOVER WILLIAMS thus writes in the *Lancet*, February 28, 1885: On October 23, 1883, a boy aged six years was brought to me by his mother. He was delicate looking, of fair complexion, with light hair. He had been for the last two or three days suffering from sore throat, accompanied by feverish symptoms, but no rash, according to his mother's statement. On examination, there was slight ulceration of both tonsils; the glands at the angles of the jaw and along the inner edges of the sterno-mastoid muscles were enlarged and painful,

especially on the left side; there was some amount of fever, but no sign of any rash or desquamation. The patient was ordered to be kept at home. When I visited him on the 25th there were the same symptoms, but the fever was more marked. Temperature 102° F. No rash was to be found on examination. By the 28th the throat symptoms had much increased; there was marked ulceration of the tonsils; the glands at the angle of the left jaw and along the inner edge of the sterno-mastoid were much enlarged and tender, but not fluctuating. I ordered chlorate of potash and bark.

On November 3d the ulceration had extended over the fauces, palate, and tongue, but did not involve these structures to any depth. Temperature was 103° . On the 5th the throat symptoms were about the same; the glands on the left side were now semi-fluctuating. On the 7th I opened the abscess, but only a small quantity of pus came away. The next day the skin over the glands sloughed, exposing a space corresponding on the outer side to the inner edge of the left sterno-mastoid muscle, on the inner to the middle line of the neck, above to a line drawn from the angle of the left jaw to the upper border of the thyroid cartilage, and below to a line drawn on a level with the lower edge of the cricoid cartilage. The vessels were plainly seen in their sheath, the superior thyroid artery crossing the space. After syringing the cavity out with Condy's fluid and water, it looked as clean as if it had been dissected; it was dressed with iodoform. Port wine was ordered. On the following day there was no extension of sloughing. Pulse 112, rather feeble; temperature 101° . The ulceration of the fauces, tongue, etc., was rather better. The cavity was washed out and dressed with iodoform. On the 14th the cavity was granulating and closing; still syringed and dressed with iodoform. General condition fairly good; pulse still rather feeble; temperature 99° . On the 18th the fauces and tongue were much improved; cavity still closing, and general condition improving. Ordered a mixture of perchloride of iron and cod-liver oil. After this the patient went on uninterruptedly well, the cavity gradually got smaller, and by the third week in December was completely healed, leaving only a scar one inch and a quarter long and half an inch wide, with no tendency to contraction, all the movements of the neck being perfectly performed. In conclusion, there was distinct peeling, which was noted a few days after he came under my care. He had no albumen in his urine at any time during his illness.

The interesting features in this case are the facts—first, of his recovery; and, secondly, the perfection of the repair of the parts after so great a destruction of tissue. Two cases occurred in the practice of a friend, when after the sloughing the temperature still remained very high, showing probably that the sloughing was only a local manifestation of a general high state of blood-poisoning. Oozing of blood from the ulcerated surface was the cause of death in another case that came under my notice. The oozing was general, no large vessel being involved. As regards the opening of the abscess in these cases, I am inclined to think that if sloughing is likely to take place, it will do so whether an opening is made or not. The diet consisted of beef-tea, essence of beef, milk and eggs beaten up, and during the greater part of the illness two ounces of port wine daily.

The Treatment of Bromidrosis of the Feet.

Dr. J. S. STEWART thus writes in the *Edinburgh Med. Jour.*, March, 1885:

Few affections of the skin are more disgusting or more difficult to treat successfully, by the ordinary methods, than foetid sweating of the feet, with or without excessive secretion. The thickened skin over the heel and anterior ends of the metatarsal bones, seems to afford a very secure and ineradicable nidus for the as yet undifferentiated enzyme which induces fermentation with its foetid products there. One form of treatment seems to be invariably successful, and therefore deserves to be much better known, viz., that devised by Hebra, which, he says, never fails, and recommends to be used in all severe cases. Hebra employed the following ointment:

R. Olei lini,
Emplastri plumbi liquefacti, *equales partes.*
M. ft. ung.

This he directed to be spread thickly over a piece of linen large enough to cover the sole and sides of each foot,—both feet, in the first place, to be carefully washed and dried. Pieces of linen rag well covered with the ointment he directed to be placed between the toes, so as effectually to separate them and secure thorough application of the ointment. Over this the sock or stocking could be worn with a light slipper, and patient allowed to pursue his or her ordinary calling. This dressing to be repeated every twelve hours for ten or twelve days. The foot not to be wetted after treatment has begun, but wiped when necessary with a dry cloth, or washed with dry bran or other mealy substance, should any part become dirty or caked with old ointment, etc.

Whether mild or severe, all cases are curable by it, and no other method seems to yield such a prompt and satisfactory result. To insure success, the whole of the skin of soles and sides of feet and toes must be tanned by the process and gradually thrown off as brown leathery exfoliations in from two to four weeks. All boots, shoes, slippers, etc., worn by patient should be discarded; because if worn again the patient is reinfected in three or four months, and gradually becomes as bad as at first. Stockings or socks should be very carefully cleansed, and disinfected by heat or by steeping in a hot solution of perchloride of mercury (1 in 1000 of water) for several hours before being washed. Neumann directs that Hebra's ointment and dressing should be changed once in three days for nine days, that is, three times altogether, a method not to be relied on in many cases seen in this country.

What I have found to yield the most satisfactory result, in treating a tolerably long series of cases, is to have the feet thoroughly washed in hot water, then steeped for a few minutes in a solution of permanganate of potash of the strength of from 4 to 6 grains in the ounce of water. The feet are then dried, not to be again wetted until complete exfoliation of the tanned cuticle has taken place.

Hebra's lead plaster ointment is then thickly spread on strips of cloth about $1\frac{1}{2}$ inch broad, and the foot covered from the toes back over heel as high as the malleoli with these, arranged and applied like a scultetus bandage. Each toe should first be wrapped round with a strip of clean rag half an inch broad and thickly spread with the ointment. This dressing should be renewed every twelve

hours with fresh rag and ointment, for a period varying from ten to sixteen days, according to the severity of the case and the thickness of the heel skin. In most cases the odor will be very much diminished by the end of the third day, and will not be perceptible by the ninth. The shedding of the skin takes place *pari passu* with the growth of the new cuticle, and may not be completed until the end of the third or even of the fourth week.

The German, English, and American Methods of Treating Acute Bright's Disease.

The *Med. Record*, January 3, 1885, says acute nephritis is a disease which is by no means rare, and which always occasions anxiety to patient and physicians. Its treatment since it was first recognized has undergone some changes, and at the present day there is a lack of complete unanimity as to the best methods to employ.

In a recent lecture upon the therapy of nephritis, Professor H. Nothnagel gives an interesting presentation of his views upon this matter.

As regards the *indicatio morbi*, we have, he says, an acute inflammation with which to deal. Unfortunately, however, we cannot apply the ordinary antiphlogistic measures. Cold is dangerous; venesection is also of no use and may cause harm; even the application of wet cups to the loins, as once recommended, should be avoided, except in sthenic cases where there is great pain. The patient should be put to bed and the room kept at a warm and equable temperature. His diet should be carefully regulated, and should consist of milk, soup, a little meat, but no vegetables and no alcoholic drinks.

There are no remedies, says Professor Nothnagel, which act upon the kidneys to influence the course of the disease. "Whether one gives them or not, it is just the same." In practice, however, he adds, it is necessary on psychical grounds, *solatii causa*, to prescribe something. Acetate of lead or ergot may be given in the hemorrhagic forms. These drugs stop the hemorrhage, but do not affect the course of the disease. Tannin, gallic acid, and nitric acid, as recommended by Frerichs, are of no real service. Of fuchsin, which has been much used by Italian physicians, we know only this, with certainty, that it colors the urine. Potassium iodide has not yet produced any certain results. Nothnagel does not seem to be aware of the value of digitalis or of the alkaline salts, as used by English and American physicians.

But, although drugs are useless, "the physician must not stand idle with his hands in his pockets." If the inflammation cannot be directly affected, it can be at least lessened or checked by derivative methods.

The bowels and skin are to be acted upon. Drastic cathartics or drastic doses of senna, bitter-water, or other salines are advised. These drastics, however, are only to be given in severe cases, when some uræmic symptoms appear. Ordinarily, laxatives are all that is necessary. It is most essential that the skin should be acted upon, and for this purpose hot-water baths, hot compresses, etc., and pilocarpin are indicated. Such are the views of the Vienna Professor.

Coming to this side of the Atlantic, we find that the latest expression of American views upon the treatment of nephritis differs from that of the Vienna clinician. In Professor A. L. Loomis' recent treatise on "Practical Medicine,"

the author reviews this subject of treatment by diaphoretics and hydragogue cathartics. He states that he has been convinced for some years that the purgative method was wrong, and gives as the three indications: the elimination of urea and its allies, the removal of inflammatory products from the tubules, and the counteraction of the effect of urea and its waste products upon the nervous system. For this purpose the patient is put to bed, frequent dry cups are applied over the loins, and infusion of digitalis is given internally. This may be supplemented with acetate of potassium, spirits of nitrous ether, or some other mild diuretic. The bowels are of course kept open, and the skin moist. If severe uræmic symptoms appear, hydragogue cathartics and hot-air baths may be temporarily resorted to. Milk should be the only article of diet, and water is the best diuretic.

The view taken as to the utility of digitalis and the potash salts in nephritis, is sustained by the clinical experience of nearly all English observers from the time of Bright.

We believe that it is no national prejudice, therefore, which makes us express the decided opinion that Americans are in advance of the Vienna physicians in the practical management of acute nephritis. But both Germany and America must pay tribute to the scientific acumen and practical sense of the English in this branch of therapeutics.

A Case of Myxœdema.

Dr. W. B. MILLER, thus writes in the *Brit. Med. Jour.*, February 28, 1865. The patient was Mrs. T., aged 38, a barrack laborer's wife, residing in Woolwich.

She states that, in 1872 she was confined in the Female Hospital, Woolwich, of a male child, and had severe flooding. After being in the hospital one month she was discharged; but shortly afterwards she was re-admitted with general debility, and was under treatment for two months. She had not menstruated since her confinement in 1872. After that she used to swell very much, and she had been, from time to time, an out-patient of Guy's and other London hospitals. Owing to a feeling of numbness coming over her, she frequently fell down, and in 1876 she had a fall down some stairs, which shook her a good deal. After that, a rash, like drops of blood, came out from the loins to the feet; her gums also bled. This returned once or twice, but she had been free from it for a considerable time, until ten days before admission, when her gums bled freely, but that had again passed away under treatment. The beginning of the winter of each year caused a sense of weakness along the spine, a feeling of continual throbbing. She frequently had fits of giddiness. When sitting her chin dropped on to her chest. She had a dread of going into open spaces by herself. She was afraid of falling down. If she fell, she could not raise herself. She was troubled with unpleasant dreams. Each succeeding year made her more infirm. Her urine had a very offensive smell, and she suffered from constipation of the bowels.

History of the Present Attack.—Symptoms of weakness became prominent in November 1883. She came under my care January, 1884. Until very recently, she had been unable to leave her bed. She was very much swollen, and presented the symptoms described above. In the autumn of each year, a further feeling of fulness appeared to develop; she also felt a sense of enlargement at each

period of four weeks. She said that this swelling seemed to begin in the abdomen, and afterwards appeared in the legs, face, eyes and hands. Her walking power was very imperfect, and there was a general want of co-ordination.

She enjoyed very good health until her marriage, in 1869. Her father was living. Her mother, who was twice confined for unsoundness of mind in an asylum, died from cancer of the breast. A brother and sister were living. Her twin sister died shortly after birth.

She was able to get food and clothing. She had had three children; one was living, one died from convulsions, and one from "tabes mesenterica." She had been worried and troubled by a husband, until lately, very much addicted to drinking. She had never had syphilis, as far as was known.

When she came under my care, her weight was 10 st. 11 lbs. Five years ago she weighed 10st. 6 lbs., and before marriage 10 st. She was poorly developed. She was of ordinary height. She had lost nearly all her hair, and what now remained was very friable. Her muscles were soft and flabby. She sometimes had twitching of the temporal muscles, and of the eyelids. Her face had lost expression, from the general swelling, and from blurring of the features. The integument was shiny, sallow, dry, and translucent. There was a slight blush over the malar bones. The temperature of the axilla was 95° ; of the mouth 95.6° . She did not perspire. She had no eruptions or tumors. The joints and limbs were fairly normal. There was atrophy of the thyroid gland.

Nervous System.—Motion was imperfect, and she stumbled in walking; sensation was slow, but well marked; she could not remember recent events; speech was distinct, but articulation was slow and measured; the sense of sight was as good as ever, but she could not hear, smell, or taste as well as formerly. Her ears had soldered lobes. She was fairly intelligent; she slept badly, and was troubled with headache.

The Respiratory System was fairly normal.

Circulatory System.—The veins were, to a certain extent, visible; the pulse was weak, but fairly regular; the blood, examined by the microscope, showed no very grave defect.

Digestive System.—The back teeth were defective; the bodies of the front teeth were in part worn away. She had an imperfect appetite; digestion was imperfect. She did not vomit; her intestinal system was irregular.

Genito-urinary System.—She micturated with normal frequency; the urine was sometimes very acid; the specific gravity varied between 1010 and 1020; the appearance was normal, as also the chemical tests. Microscopic examination showed the presence of micro-organisms.

The diagnosis was that there was a condition of general debility, more especially of the nervous system, with a deposit in the body generally, giving a condition at present described as myxœdema. There was no immediate prospect of a fatal termination, although the prognosis appeared to be bad.

The treatment consisted of general and nervine tonics, alteratives, and alkaline mixtures. Symptoms were treated, and she took liquor ammoniæ acetatis and water, and from this she appeared to derive considerable benefit.

Clinical Remarks on Post-Typhoid Elevation of Temperature.

Dr. J. M. Da Costa thus writes in the *Med. Times*, December 27, 1884: It has happened to me to see, both in this hospital and in private practice, a number of patients who, after passing through the course of the disease, still retained a fever-temperature, or if, as is much more usual, the temperature had for a time resumed its normal status, it went up again, without a redevelopment of diarrhoea, the appearance of rose-spots, or the return of cerebral symptoms. I have seen it shoot up as high even as 105° , and almost as quickly go down again to the normal, or even below. It was only yesterday that I met a physician in large practice in this city in a case of a boy convalescent from typhoid fever, in which the temperature on two occasions went up suddenly to 105° , without there being any signs of relapse of the disease, and on both occasions there were no other manifestations of systemic disturbance, and the temperature soon went back again to normal.

In the case I show you this morning, something of the kind happened. His history is a long one, of which I need only give you the outline. His name is Thomas T., 20 years of age, born in Ireland. He was admitted September 22, 1884, after five days' sickness with typhoid fever. He has been here for nearly three months. The temperature, with the usual fluctuations, returned to the normal at the end of four weeks; during this period he went through the regular course of a typhoid fever of rather more than usual severity. After he had passed the height of the disease, his recovery was delayed by an attack of milk-leg. When this had subsided and his temperature had become normal and had so continued for several days, he had a sudden rise of temperature to 104° one afternoon (November 3), but there were no other symptoms of disorder, and on the next day the temperature was 100° , and afterwards gradually subsided to normal. I find that the temperature again rose on the 20th of November to $101\frac{1}{2}^{\circ}$; subsequently it remained steadily high for nearly a week.

There is a class of cases, of which I have seen a number in former years of service in this hospital, in which there is a sustained fever-temperature after all the other signs of the disease have passed away, and the patient is convalescent. In this class of patients I have seen the temperature fall from 100° to normal as soon as they were allowed to get out of bed. The temperature would apparently remain elevated indefinitely, without any other sign of disease, as long as they were kept in bed. This has taught me that in some cases, if you want to get them well, you must get them out of bed: too much coddling does harm. The sustained abnormal temperature makes the physician, nurse, and patient afraid, although the other appearances are favorable. When the patient is allowed to sit up, gradually extending the time, the temperature falls.

There is another class to which I wish to direct your attention. Of course it is understood that elevation of temperature often occurs from indiscretion in diet; these instances I need not refer to further. I merely mention them to complete the series. In this man the first elevation I referred to was caused by reading a book, and that in the boy had a similar cause. The boy was of very impressionable nature, and, when a schoolmate called upon him and insisted upon seeing him after his attack of typhoid fever, he became very much excited after his friend had gone away, and cried for some time. That evening his temperature

went up to 105°. Mental emotion, then, may be a cause of high temperature during convalescence from typhoid fever.

This does not, however, completely cover the case before you. I took the patient out of bed, forbade any excitement or mental effort, but the temperature continued high, although he had no diarrhoea or symptom of disease. Examining the case repeatedly, I could find nothing but constipation that was amiss. Upon looking carefully for a cause why the temperature remained elevated, it occurred to me that it might be due to constipation; the fever-temperature being caused by irritation of hard masses of retained faecal matter in the intestine. I ordered this man a daily enema and one drop of the fluid extract of belladonna three times a day. This I had found in previous cases effective in correcting a tendency to constipation after typhoid, where irritating purgatives would be dangerous. Now, here the effect was very soon apparent. I have to report that the temperature fell to normal as soon as the intestines were freely evacuated, and has remained so. He now has a daily movement of the bowels, feels well, though still weak; his temperature is 98½°. He is no longer confined to his bed.

Anergic Stupor.

Dr. THOMAS W. DEWAR reports this case in the *Edinburgh Med. Jour.*, December, 1884:

The following case came under my charge on Wednesday, 10th September. A message was left, about 5 p. m., that the girl had fainted. I was unable to attend till 7:30, when I found her in bed, breathing quietly as if in a sound sleep.

M. D., aged 25; unmarried; works in dye-works. Her father died, aged 40, of consumption. Her mother is alive and well, aged 50. Six brothers alive and well; three sisters dead, causes unknown; three living. Of the three living, two are weakly. There is no history of epilepsy or mental disease in her own or her parents' families. She had measles at nine and whooping-cough at three years respectively. She never had a fit. When an infant she had a swelling below the left mastoid process, which eventually suppurated. Several times since a swelling has reappeared here, but always resolved. Habits temperate. She is thin and pale and has been losing flesh of late.

She does not remember much of her early life, and available sources of information are quite unreliable. When I found her she was pale, but not unnaturally so. She had been ailing for about three weeks before this. Stomach out of order and sick headaches. Though disinclined for any work, and lacking interest in anything, she had remained at work till Monday, 8th September. For a day or so before the 10th she had some darting pains in the left side and over epigastrium, which I considered intercostal neuralgia, there being no evidence to lead to another conclusion. On the 9th she took to bed, knitting most of the day. She was not depressed mentally. On Wednesday, between 4 and 5 p. m., she said she thought she was going to faint, sank back in bed, and lapsed into the condition in which I found her two hours and a half afterwards. She groaned occasionally, and moved her head sometimes from side to side. Her expression was anxious and distressed. Eyelids closed; pupils dilated, regular, sensible to light. Tapping the head, shaking her, and shouting in her ear, produced no change. There was no catalepsy. Reflexes and sensibility to pain

quite natural. She could swallow perfectly well, but seemed to dislike being disturbed. Her temperature was 98.6° ; pulse 76, regular, well filled between the beats, and of fair tension. Circulatory system natural. Breathing a little harsh at both apices. Menstruation has never been missed, is fairly regular as regards time, but sometimes rather abundant. On raising her and shaking her she remained as lethargic as ever, paying no attention to anything that was said or done to her.

11th.—She remains in much the same state. Temperature, 98° ; pulse, 80 regular, subsiding somewhat rapidly. Hands and feet quite warm. Tongue very foul still. Beef-tea and brandy were administered. In the afternoon she was in much the same state. She groaned occasionally, and put her hand sometimes to her left side and sometimes to the left side of her head. A mustard blister was applied to the side, and a poultice with mustard to the head. After a time the groaning ceased, and she became quiet as formerly. She rose several times to-day and micturated voluntarily.

12th.—Condition much the same as yesterday. Tongue very foul. Aperient, administered. She vomited soon after this, but sufficient was retained to have the desired effect, as she had a motion in the evening, rising voluntarily and completing the act, her eyes, however, remaining closed. She micturated properly several times to-day.

13th.—She remained in the same lethargic state till late in the afternoon, when she called out that she was drowning, and again became silent. These were the first words she had spoken for three full days. This evening, after being well shaken and shouted to, she gave some incoherent answer to the questions of "How she felt" and "Where she was?"

14th.—To-day, on being asked "What she did?" she replied she was a machinist. (A machine stood by her bed-side. The reply indicated awakening consciousness to external impressions.) On asking her who I was, she said Mr. Allen (the master of the dye-works in which she is employed), and then mumbled something about getting her work done before the clerk came round. She became more intelligent this evening.

15th.—Monday she was up, and looking quite better. She is a bright, intelligent girl, and of a lively disposition. She complains much of a pain in her head, starting at the vertex and passing down behind the left ear. It is so severe she cannot touch it, nor bear the weight of her hair on it. She positively affirms that she remembers nothing that occurred since Wednesday afternoon. The first thing she remembers was my pinching her, which, she says, was very painful for a long time after. The pinch was quite small. Of the reality of the stupor I have not the slightest doubt; for on two occasions when I visited her, her mother and sister—the only other occupants of the house—were out, and I found her in the state I have just described, and by no effort could rouse her. Seven years ago, on the death of her father, she says she had an attack of the same nature. On that occasion the stupor lasted longer. Her mother affirms that she had similar attacks frequently before that, but her version of facts which came personally under my own observation leads me to set little value on the statement. She is getting chemical food, arsenic, strychnia, beef-tea, etc., and improves daily.

The interest of the case lies in the circulation remaining natural and efficient, the calls of nature being recognized as by an intelligent being, and the reflexes and sensibility to pain remaining natural also.

Pelletierine for Tape Worm.

Dr. H. WILFORD thus writes in the *Cinn. Lan. and Clinic* Dec. 27, 1884: The object of the report of these cases is to show that we have in pelletierine a safe and reliable remedy for the removal of tape-worm. All cases here reported were treated alike. The preliminary measures taken were to omit food for one day, to administer the same evening a cathartic, castor oil or a saline cathartic, and the morning following to give the anthelmintic, and the compound tinct. of jalap thirty minutes afterwards. Small quantities of milk, instead of complete abstinence, were frequently allowed to those persons that were desirous of taking food. The compound tinct. of jalap, which we are recommended to use by Tanret, is not official in the United States Pharmacopœia. The French formula, according to Johnson's Medical Formulary, is the following:

Take of jalap.	8 parts.
Turpeth	1 "
Scammony.	2 "
Alcohol, 60 per cent.	96 "

Macerate ten days and filter.

Dose : $\frac{1}{2}$ to 2 drachms.

I have substituted for the above three drachms of fld. ext. of senna, and two drachms of fld. ext. of jalap, with sufficient syrup to make one ounce. The syrup can be omitted, as the medicine is to be given in sweetened water. Nausea and vomiting can be arrested by ice and lemon juice. I find that it acts quickly and causes no griping. I believe that the jalap has some stupefying effect on the worm, and give it in preference to any other cathartic. Every case was examined microscopically, being assisted in the examinations by an able microscopist, Dr. Krouse.

Five of the specimens were of the variety of *tænia medio canellata*, one of *tænia solium*, found in the little boy.

Dizziness or vertigo was noticed in all the cases, coming on within five to thirty minutes after the remedy was taken, lasting from one to four hours. The dizziness, however, diminishes as soon as the cathartic begins to act.

The pulse in some of the cases was slightly increased, but I have never found any elevation in the temperature.

In no case was the medicine administered unless the presence of the worm was assured.

Case 1. F. W., æt. 22, a healthy and robust German, tinner by occupation, had for about of eight or nine months the following symptoms: headache, dizziness and vertigo, frequent eructation of gas, bad taste in the mouth with intervening diarrhœa and constipation. On July the 10th, 1882, he presented himself at my office with segments of tape-worm, which he first observed a few days previously. Two days later Tanret's pelletierine with the compound tinct. of jalap was administered, and the worm was expelled in about two hours.

The patient had no recurrence, and is rid of the symptoms of which he had previously suffered.

Case 2. J. R., æt. 34, German, butcher. General health good. Had been afflicted with tape-worm for about one year, and taken remedies for the removal of the same on three different occasions without success.

On April 22, 1883, I administered one ounce of pelletierine with the cathartic, and in less than two hours the worm with its head was passed. The patient has had no recurrence.

Case 3 was that of a boy, 5 years old, a patient of Dr. Jones, of Ludlow, Ky.

The doctor found the patient in very delicate health. He had suffered intensely for about four months with colic, restlessness, and anemia existed notwithstanding a good appetite.

The patient had already been treated for tape-worm by two physicians in Somerset, Ky.

On Aug. 20, 1883, in consultation with Dr. Jones, half of the adult dose of pelletierine and the cathartic was administered. The worm, which was a *tænia solium*, was passed in less time than one hour and a half. The patient has since had no symptom of the previous complaint, and no recurrence of the parasite.

Case 4. M. G., female, æt. 34, a domestic of a robust and healthy appearance. Has suffered with tape-worm for about two years and a half; has twice taken remedies, which she says on each occasion removed the worm, being so informed by her physicians.

On Jan. 10, 1884, I ordered one ounce of pelletierine, with the same amount of compound tinct. of jalap. The largest part of the worm was passed, but the head was not found. Two months later the same remedy was administered with the same unsuccessful result. I have since seen the lady, and am informed that she still notices segments of the worm in the stools. In this case I was not allowed to be present at the house to give the medicine, as it is my custom to do in all cases; and I was told that on each occasion she vomited a part of the remedy.

Case 5. B. B. L., æt. 40, insurance agent. Has always enjoyed good health, and would not have known that he was afflicted with tape-worm, had not his physician called his attention to it.

On Jan. 21, 1884, the *tæniacide* remedy with the cathartic was administered, which expelled the worm in about two hours. No other remedy had been used in this case, and the patient has up to this time no recurrence.

Case 6. J. W. æt. 55, a farmer, has enjoyed good health up to three years ago. He was first informed by his physician that he had dyspepsia, and has taken medicine for a long time. One day a friend of his thought that he might have tape-worm and he came to me for treatment. As he had never passed segments, or at least never noticed any in his stool, I ordered a cathartic with the directions to examine the stool. The segments were produced and the remedies administered July '84 with success. No recurrence.

Case 7. G. B. H. æt. 25, American, salesman, a healthy person. Had been afflicted with *tænia* for about two years and a half, and during that time had on nine different occasions taken remedies to expel the worm. The last prescription which he received from his physician called for two ounces of spts. of turpentine, with the same amount of castor oil. Half the quantity to be taken at one dose. He used the medicine without success.

December 5, 1884, I administered one ounce of pelletierine with the cathartic, and in two hours and fifteen minutes the entire worm was expelled.

Dujardin-Beaumetz, in his *Lecons de Clinique Therapeutique*, 1883, vol. I., page 773 says the following :

Tanret found four alkaloids in pomegranate, to which he gave the name pelletierines, in honor of the chemist Pelletier to whom we owe the discovery of quinine. To distinguish the different pelletierines, he named them pelletierine, iso-pelletierine, pseudo-pelletierine and methyl-pelletierine. Only the first two are employed as tæniacides. Both myself and my pupil, Dr. Rochemure, have experimented with these alkaloids on animals and on man. Those experiments have shown us that the pelletierines produce similar toxic effects in animals, the only difference being the intensity of the phenomena. In this regard pelletierine stands first, then comes iso-pelletierine, pseudo-pelletierine and methyl-pelletierine. I will add a few figures to show the difference in their toxic effects.

To cause rapid death in a rabbit required 17 centigrammes of pelletierine, 20 of iso-pelletierine and 40 to 50 of pseudo or methyl-pelletierine.

One drop of a 10 per cent. solution of pelletierine was sufficient to kill a frog in a comparatively short time; and a leech when plunged into a one-fifth per cent. solution of the same alkaloid died at the end of ten minutes.

A careful examination of the toxic effects, and of experiments on frogs, show that pelletierine acts like curare. It paralyzes the peripheral extremities of motor nerves, while it leaves sensation intact.

In the beginning of our experience we united the four alkaloids in the form of sulphates, and spite a very marked success, we observed a certain degree of failure. I then requested Tanret to add tannin to the preparation in order to bring it as nearly as possible to the state of the alkaloids in the pomegranate bark which contains tannin in large quantities. From that time we administered 30 centigrammes sulphate of pelletierine and iso-pelletierine in a solution containing 50 centigrammes of tannin. It is this mixture which we improperly term tannate of pelletierine.

Which of these different alkaloids possess anthelmintic properties? To that question Beranger Feraud has given a positive answer. He determined experimentally that while methyl-pelletierine and pseudo-pelletierine never cause the expulsion of the tænia even in large doses, pelletierine and iso-pelletierine either separately or together will always cause an expulsion of the worm.

As you see, the question, thanks to these various works, is becoming more and more narrow. The presence of tannin is already a step in the way of progress.

Thanks to the researches of Beranger Feraud, we may exclude the methyl and pseudo-pelletierine as not containing tæniafuge properties.

We now come to the question of a purgative. I thought at the beginning of my researches that it would be well to unite the purgative with the pelletierine. I united in one mixture German brandy sweetened with syrup of senna, and a mixture with sulphate of pelletierine and tannin. The result obtained did not confirm my hopes, and I came finally to the administration of a purgative half hour after the pelletierine was administered. I consider German brandy as the best purgative in such cases, because the presence of tannin on one side, and the paralyzing effect of the alkaloid on the muscular fibres of the intestines on the

other, opposes the effect of the purgative. Nevertheless I know that good results are obtained from castor oil, from 30 to 60 gramme doses. Beranger Feraud prefers the infusion of senna. Whatever purgative you may have chosen, give it at the latest, one-half hour after the pelletierine. If you adopt the following rule in administration you will obtain the almost certain expulsion of the worm. The evening preceding let the patient take a light purgative, and take only a light supper. The following morning give on an empty stomach thirty centigrammes of sulphate of pelletierine and iso-pelletierine in a solution containing 50 centigrammes of tannin. Ten minutes later give a glass of water, and at the end of three-quarters of an hour a purgative. Advise the patient to pass the rectal contents in a vessel of warm water. Shortly after taking the medicine the patient is seized with vertigo, and the tænia is passed about three-quarters of an hour after administration of the remedy. In case of failure, that is, the worm passes away without the head, wait two or three months before again resorting to the remedy. The same rule should be followed whatever tæniafuge has been taken. Since we have carefully followed this course of treatment we have had numerous successes. In nine out of ten cases we succeed in finding the head. I can therefore affirm that pelletierine is an excellent remedy for tænia, if it be not the best. This statement is made in reference to adults. Until more is known about it, I would not venture to recommend it in children.

Case of Sweating to Death.

Dr. ANDREW SCOTT MYRTLE thus writes in the *Med. Press*, February 25, 1885: Mr. W., a hale, active, intelligent man, æt. 77, was in the full enjoyment of health on February 14th, 1882, the next day he complained of flying pains in right hip, thigh, and foot, for which he kept his bed. I saw him on the 16th, the pains were increased on slightest movement, there was no fever and all the functions were performed regularly; for three weeks he remained much in the same state, and found complete relief from occasional doses of salicylate of soda (10 grains). About the 8th of March he called my attention to the sodden condition of his skin; I found him perspiring freely, and looked on this new feature as a natural sequent to an attack of subacute rheumatism; the pains were neither better nor worse, but could always be relieved by the salicylate; he perspired at intervals most copiously till the 18th; the pains left him entirely about that date. His condition then was, appetite moderate, tongue clean, pulse and temperature normal, felt quite well in every way but for the perspirations, urine natural in quantity and character, no thirst, had once in the twenty-four hours a sense of chilliness sometimes amounting to slight rigor, especially if the bed-clothes got off him. I put him on arsenic, cinchona, and sulphuric acid during the day, and quinine and belladonna at bedtime; ordered his body to be rubbed with warm towels, sponged with strong solution of salt with eau de Cologne and vinegar once a day, and his wet underclothing to be changed when practicable.

On the 22d the sweating I thought was somewhat diminished; when he fancied the arsenic disagreed with him, and I gave it up. The perspirations came on in a most peculiar way, suddenly every duct opened and the sweat poured out; this would go on for ten minutes or ten hours, but invariably stopped as suddenly as it began; everything on and about him was simply saturated. Thinking there

were indications of an aguish nature about him, I now gave him Warburg's tincture in full doses, and continued the quinine and belladonna at night.

On 24th still no change; his urine I examined carefully with following result: Sp. gr. 1020, reaction fairly acid, no trace of albumen or glucose, usual urates in normal quantity, urea 2.43 per cent.; after standing for twenty-four hours some fine crystals of oxalate of lime were found, but we may consider the urine healthy in all respects, and it continued so till death; and what is more remarkable, with all the loss of fluid by the skin; the secretion of the kidneys was never affected in quantity.

About the 26th the sweat became most offensive, giving the same heavy smell as that given off by a horse after a smart gallop on a hot day. Oddly enough, his son was attacked with all the symptoms of hay fever when he entered the room, just as he is affected on going into a stable or hay field. The smell was given off only occasionally, and chiefly during early morning. I had some of this sweat collected for analysis, but could make out nothing by it.

On the 27th I called Mr. Wheelhouse in consultation. On hearing the history of the case, he felt at first inclined to look on the sweating as an effort of nature to rid the system of some effete matter by the skin; but on further consideration he adopted the view which I had held for some time, that the perspiration was unlike any form of sweating we had ever seen, that it in reality was the disease we had to combat, and that it originated in paresis of the terminal branches of nerve filaments which supply the sweat glands and ducts and control their functions, and that this paralysis has been caused by exposure to cold and hot air currents in his work-shop. Mr. Wheelhouse then suggested the exhibition of ergotine, basing this line of treatment on the fact that as ergotine acted as a specific on the vaso-motor nerves, controlling the capillaries in cases of passing hæmorrhage, it might exert the same influence on the sweat glands and ducts through their nerve supply. I was pleased with his idea and gave 3 grains of ergotine at 3 m., and the same at 11 p. m. Shortly after 12 I was sent for on account of what was said to be a slight convulsion. I found the patient bathed in perspiration, face very pale, features pinched, surface of the body cold, heart's action irregular, feeble, respirations hurried, in fact he looked dying. I gave brandy with ammonia, applied hot bottles to extremities, and sinapisms to chest and nade of neck, and in an hour he recovered. Next morning the effects of the ergotine had passed off as far as its toxological action went, but it showed no power as a therapeutic on the condition of the skin. During the following twenty-four hours I made the nurses keep an accurate record of the fits of perspiration. Between 8 a. m. on the 28th and 8 a. m., on the 29th, fifteen distinct bursts of perspiration were observed, lasting from a few minutes to a couple of hours; the patient could tell the approach and cessation of each attack, and during the interval after the sweat had been wiped off, the skin, although soft and sodden, was not wet; during the fit, dry it as often as you could, it was no sooner wiped dry than the sweat was seen standing upon it.

On the 31st Dr. Dreschfeld, of Manchester, was called in. I merely gave him a general outline of the case, but did not say one word as to my view regarding its pathology. I left him to examine for himself and draw his independent conclusions. The first remark he made was, "This is a most singular and interesting

case. I have never seen one like it, and don't think I ever heard or read of a similar one." The only thing he found out which was not in keeping with a perfectly sound physique, was a slight mitral bruit; but as that had existed for over twenty years to my knowledge just as he found it, no importance could be attached to it. Mr. W. told Dr. Dreschfeld that there was nothing the matter with him, that he felt as fit and capable in mind and body as ever he did. During our consultation Dr. Dreschfeld expressed a wish to be allowed to give his opinion as to the cause of the sweating without being informed as to the views of Mr. Wheelhouse or myself. He then said, "I believe the mischief is in the sweat nerve centre, and the sweating and aguish attacks are due to an alternate paralysis and irritation of that centre, and that this condition arises from the presence of rheumatic poison in the blood." I then told him that I had fixed on paresis of the terminal nerve filaments which preside over the healthy function of the sweat glands and ducts, that these filaments had become weakened by exposure to alternate heats and chills to which the patient had exposed himself for months in his open workshop, and that he had never been quite himself since he had fainted after having stood over some workmen for hours whilst a cold current of air had swept past him. It was satisfactory to find that we were pulling at the same rope, although at different ends; we both looked on the symptoms as having a neurotic origin. Dr. Dreschfeld suggested a trial of atropia, giving him a fiftieth of a grain morning and evening; the surface of the body was also dusted with salicylic acid and starch. In an hour after the administration of the atropia the very same symptoms were developed as we had after the ergotine, only intensified; the patient nearly died; on rallying, the sweating went on just the same.

On April the 5th I got Mr. Wheelhouse again to see him and asked Mr. Jessop to accompany him; went over all symptoms, Mr. Wheelhouse still sticking to his ergotine as the proper remedy, and Mr. Jessop, looking on the sweating as similar to that of advanced phthisis, advised a trial of quinine and tinct. belladonna. I having witnessed the effects of ergotine, and as the patient had taken quinine and belladonna every night, proposed we should return to arsenic, knowing that of all remedies it possessed the greatest power over the cutaneous nerves, in cases of abnormal or diseased conditions of the skin; and to this we agreed. He had 5 min. of liq. arsenicalis with his Warburg's tincture twice a day; in forty-eight hours the perspirations ceased and kept away for twenty-four hours, then they recurred slightly; during the following week, the skin felt warm and dry, there was very little active perspiration, and I thought a cure would be effected, when back the sweats came worse than ever. All this time we had no constitutional disturbance, the pulse 72, tongue clean, temperature 98.2, bowels regular, urine natural. He said he felt as well as ever he did, his mind was as clear, the only thing that troubled him was he could not assume the erect posture without feeling faint; to look at him lying in bed he appeared fresh and ruddy, just as he did when in health.

After the exhibition of the arsenic, the strong horsey smell disappeared for weeks, and only returned at rare intervals. About the 13th the arsenic again caused so much dryness in mouth and throat, with inflammation of conjunctiva, I had to discontinue it, and substituted eucalyptus in combination with the Warburg; as his nights were very restless, I also gave him morphia at bedtime.

On April 25th I took the opportunity which our branch meeting afforded of asking Mr. Arthur Jackson to see the patient with me; he overhauled him thoroughly, but beyond the sweating could find nothing wrong. Mr. W. assured him he was quite well, and felt up to anything. I asked Mr. Jackson if he had ever seen such a case, but he had not. He had never heard of such an one, and could suggest nothing. The day Mr. Jackson saw him he spat a little blood, but there was no sign of lung mischief, and as he had been on his back ten weeks, we thought it likely to arise from some temporary local congestion.

During the whole month of May there was little or no change in the symptoms; the perspirations were as frequent, as great and erratic as ever. Towards the end of the month his strength began to fail, and his breathing occasionally became labored, still he took his food, felt comfortable, performed all his functions, and passed good nights.

On June 15th he sank from exhaustion, perspiring to the end. Before death he was as clear in his mind as ever he was.

At the first I looked on the case as one of rheumatism, and this view was strengthened by the remarkable action of the salicylate of soda; then when the rheumatic pains left, and the shivering and slight rigors took their place, I thought we might have some malarial mischief, but the powerlessness of the most reliable remedies in affording any relief, drove me from this ground; and so I arrived at the conclusion that the fault lay in the nervous system, and knowing that for years he had been working in an open shed at a gas-engine, exposing himself to draughts of every range of temperature, I fixed on the peripheral cutaneous nerves as the seat of his troubles. Dr. Dreschfeld, knowing nothing of his private history, at once fixed on the sweat nerve centre as the cause of his perspirations and rigors. After all, I still adhere to my own opinion. The surface of the body was often exposed to heats and chills, and I think the terminal nerve filaments were much more likely to become paralyzed thereby than any of the nerve centres. I have called this a case of "Sweating to Death," because, in the first place, it describes the real nature of the case, and in the second I have a decided objection to coining a new scientific name for a form of disease which may never be met with again.

Veratrum—Gelsemium—Aconite.

In the course of a clinical lecture (published in the *Southern Med. Record*, January 20, 1885), Dr. R. C. WOOD says:

As these agents seem to be coming into general use, it is well to inquire into their distinctive properties.

Many practitioners seem to regard them as possessing the same therapeutic powers, and not infrequently they are combined in the same prescription; and yet their physiological effects are somewhat different, and should be well studied in order that you may avail yourselves of those nice distinctions by which careful and judicious practitioners so often excel in the administration of drugs.

Veratrum viride.—There has been much discussion in regard to the physiological action of *veratrum viride*, and its real *modus operandi* is not yet fully understood; but the most probable view is that it acts directly upon the pneumogastric nerve. This nerve, you are aware, sends branches to the great car-

diac plexus and to all the viscera of the trunk and abdomen. It is a nerve which exercises most extensive and important influences, being excito-motory, excito-secretory, and excito-nutrient. Any agent, therefore, which acts specifically upon this nerve, or upon the medulla oblongata, the point of its organ, must possess great power for good or evil.

It is known that the pneumogastric has an inhibitory influence upon the heart's action. A galvanic current passed through the pneumogastric diminishes the frequency of the pulsations.

Whatever be the method of its action, veratrum certainly does influence and control, in a most remarkable manner, the frequency of the heart's action. It also lessens the frequency of the respiratory movements, and, if given to excess, may even lead to asphyxia. Veratrum is called an arterial sedative, and a depressant of great and dangerous power; on which account many regard it as a dangerous remedy. Nearly all who have written on the subject caution the practitioner against its use in low and feeble states of the circulation. I do not regard it so dangerous an agent in low states of the system as many who have thus written upon it. When first introduced by Dr. Norwood, of South Carolina, as a remedy in pneumonia, it was prescribed in eight-drop doses of the saturated tincture, gradually increased, and at intervals of three hours. Experience soon showed that the dose was excessive, and the severe vomiting and prostration which often resulted alarmed the profession and greatly disparaged the remedy for a time. I have, during an experience of more than thirty years in the practice of medicine, very largely, and successfully, relied upon veratrum in the early stages of pneumonia; and I have found that, when properly administered, nausea and depressing influences do not result from its use.

I usually commence the remedy in one or two drop doses at intervals of two hours, increasing a drop with each dose, until the desired impression upon the heart's action is obtained; after which the dose is not increased, or is diminished, according to circumstances. I dilute the dose in at least two tablespoonfuls of water, or instruct the patient to swallow a wineglass full of water after taking the medicine, to avoid the irritating effects of the drug upon the mucous membrane of the stomach. I also, especially if there be pain in the case, or any tendency to diarrhœa, add to the dose a few drops of *elix. opii* or a little paregoric. The opiate counteracts the nauseating tendency of the drug, but does not interfere with its action upon the circulation. When using veratrum, it is not deemed advisable to give quinine or other agent, except the opium in the manner mentioned.

Veratrum may be used in any case of an inflammatory or sthenic character, where it is desired to lessen the frequency of the pulsations, and thus reduce the fever. In scarlatina its results have been very satisfactory. Its influence upon the nervous system has also proven available for the relief of puerperal convulsions, when used in decided doses. When veratrum has been long continued at a dose sufficient to keep the pulse at a given point, and then continued in smaller doses as the patient improves, it is not cumulative, but acts as a tonic, increases the appetite, and invigorates the system.

Gelsemium.—Gelsemium, or the yellow jessamine, exerts an influence upon the cerebro-spinal nerve centres, producing a soothing and slightly hypnotic effect

upon both the motor and sensory nerves throughout the system. It lessens, to some extent, the heart's action, and reduces fever by its tranquilizing effect upon the general nervous system. It does not slow the pulse-rate so greatly as veratrum, but there is a greater lowering of the temperature relative to its action upon the heart than with veratrum. It has the property of lowering the tone, and relaxing unstriated muscular fibre; hence it is a good remedy to relax rigid os uteri, and to facilitate the first stage of labor. In convulsions, or in any condition dependent upon exaltation of the motor and sensitive spheres, it is a good remedy. Unlike veratrum, it does not produce nausea or emesis, but is rather soothing in its influence upon the mucous membranes. In irritable bladder, or incontinence of urine, this soothing effect upon the mucous membranes is well marked, especially when combined with bromide of potassium, as in the following formula:

R. Brom. potassium ℥ ss.
 Water ℥ iij.
 Tinct. gelsemium 3 ij.

M. Take teaspoonful every three to four hours.

In high febrile constitutions, attended with headache, from hyperæmia of the brain, it usually has a quieting influence, reducing, in some degree, the frequency and tension of the pulse, and lowering the temperature. I have sometimes combined it with spirits of nitre and veratrum with good effect in such conditions:

R. Tinct. gelsemium 3 j.
 Tinct. veratrum gtt. xxiv.
 Spirits nitre dulc. 3 ij.
 Water 3 iij.

M. Teaspoonful every hour until the fever subsides, and then lengthen the interval.

I have found it useful in neuralgia, combined with bromide of potassium and opium, as follows:

R. Tinct. gelsemium gtt. xv.
 Elix. opium gtt. xx.
 Brom. potas. gr. xxx.

M. This given at a single dose rarely fails to relieve the pain and give rest to the patient. May repeat after two hours, if necessary.

In ordinary toothache, twelve to fifteen drops of gelsemium gives relief for a time. The tendency of opium to determine to the brain seems to be counteracted by gelsemium, in some measure at least, and yet its anodyne effect is promoted rather than diminished when combined with gelsemium. I have noticed its good effect, especially in that annoying form of toothache that makes its attack immediately after going to sleep, or when the patient gets warm in bed.

In ovarian neuralgia, and in palpitation of the heart, connected with, or dependent upon, ovarian or uterine disorders, it has, usually, a quieting effect, especially if combined with the bromides.

Aconite.—This agent is the sheet-anchor of the homœopaths, and to it, more than to any other agent, is due their vaunted success in the treatment of febrile

and inflammatory affections. Aconite affects the sensory nerves rather than the motor. In toxic doses it paralyzes, first, the peripheral termination, then the nerve centres, and, lastly, the centres of sensation in the cord. In proper doses it lessens the number of heart-beats, not so much or so decidedly as veratrum, but reduces the temperature more in proportion than either veratrum or gelsemium. It is a more powerful and dangerous agent than either of the others which I have mentioned. It is sedative to the vaso-motor nerves, and without so strongly impressing the pneumogastric as veratrum, it yet slows the respirations, and tranquilizes the general nervous system. The eliminating powers of aconite are superior to either veratrum or gelsemium; especially is this true of its influence upon the skin and kidneys.

It opposes the fever process by lowering the temperature and by slowing respiration. These properties give to the remedy remarkable antiphlogistic powers, and adapt it to all inflammatory conditions. In severe attacks of neuralgia it is more reliable and decided than gelsemium, and combined with opium and bromide, in place of gelsemium, in the formula given under that head, it is equally, if not more efficient in giving relief. The dose is, of course, less, and sometimes acts very efficiently without the opium, as follows:

R. Tinct. aconite gtt. iv.
Brom. potash grs. xxx.

Give at a dose, dissolved in water, and repeat in one hour if necessary, using revulsives also to the affected part. This formula is adapted to the severer forms of neuralgia, especially of the facial variety.

In convulsive affections with fever, aconite is useful, but, as a rule, less powerful in diminishing motor activity than gelsemium. In throat inflammations, particularly in tonsillitis, it is a good remedy. In pneumonia it is also a useful remedy, and is preferred in cases of children, and that class of cases where, from anæmia, debility, or like cause, the veratrum or gelsemium is contraindicated. It may be given even in cases attended with considerable prostration, and in cases where the pulse is small and somewhat feeble, especially if there be inflammatory action at any point. In gastric inflammation it does not act well, its tendency being to produce nausea.

Aconite should be given in small doses oft repeated. As a febrifuge, given during the exacerbation of our malarial fevers, it is excellent. My method of using it in these, and in most cases of febrile excitement, is as follows:

R. Tinct. aconite radix. gtt. v.
Water ℥ iv. M.

Teaspoonful every half hour until fever begins to abate, and then at longer intervals, the patient being instructed to discontinue it if the fever goes off, or to suspend the remedy if sweating supervenes. This formula will usually suit children over five or six years old. If younger, the dose should be lessened. In high fevers of adults I often add ten or twelve drops to the four ounces of water. Spirits of nitre may be advantageously added, especially where the urine is red and scant:

R. Tinct. aconite	gtt. x.	
Spirits nitre	ʒ j.	
Water	ʒ iv.	M.

Teaspoonful every half to one hour until fever abates. Though the fever may not entirely subside under this remedy, it always diminishes more or less, the temperature is lowered, the headache is palliated, and the exacerbation is thus passed over without untoward results, and with comparative comfort to the patient.

Endemic of a Peculiar Disease Characterized by Jaundice.

Dr. L. N. DAVIS thus writes in the *Cinn. Lancet and Clinic*, Feb'y 14, 1885: But a few days since there were reported in the *Lancet and Clinic* two or three peculiar cases which had been admitted to the wards of Prof. Mackenzie, in the Cincinnati Hospital. They impressed me in more ways than one; first, that there is "something new under the sun," and that, too, in the shape of disease; secondly, if the skill of Prof. Mackenzie were foiled in the least, that I should still feel hopeful, though my own had been sorely baffled; and, thirdly, that the cases reported resembled, in a very slight degree, some of my own.

In the discharge of our varied and imperative duties as country practitioners, no matter if we be disposed to be a little inquisitive as to the hidden mysteries of pathology, if we meet with but one "peculiar" case it only commands our attention for a very brief period. Something else, and perhaps of a very different nature, makes its demands upon us; and we hie us away, with the consolation that the *perplexing* case is well, or with the remorse that it has "*crossed the Styx*." In either case the bill is forthcoming; and who is to question the validity of our diagnosis?—(for we have no doubt applied some name.) But if we meet with a series of such cases, our inquisitiveness may be excited to the point of investigation; so, in the following cases, I have resorted to the limited resources within my avail, and have presented the subject to our county medical society. Am yet unable to place my cases under the head of any malady described in our text-books. The experience of some of my neighboring physicians accords very much with my own.

For the history of the following case I am indebted to my friend Dr. A. P. Murray, with whom I saw the case.

Case 1. About Dec. 15, 1884, saw Charley E., widower, aged about 30 years, with Dr. M. History as follows:

Farmer of average constitution, never had any serious sickness, no special hereditary dyscrasia or constitutional taint. Was taken sick Monday, about eight days ago, a short time after eating his usual dinner. Ejected his dinner, but, as he was subject to attacks of indigestion, but little thought was given to his case until later, when it became characterized by intense colicky pains, and profuse diarrhoeal discharges. The doctor was sent for. As was natural, from the above history, he conceived it to be an ordinary case of colic from indigestion, and prescribed accordingly. The next day he was summoned to see the case again, with the word that he was not any better. On his arrival he found but little amelioration of either the diarrhoeal discharges or abdominal pain. No elevation of the temperature to speak of, and pulse not out of the way; but marked

tenderness with induration was noticed around the head of the colon; abdominal parietes rigid and retracted. The iliac tenderness continued, and spread from day to day; retraction of the abdominal walls gave place to tympanites, and the diarrhoea was succeeded by the most unyielding constipation; occasionally singultus, and eructations of bile and stercoraceous matter. Temperature at time I saw him was 100°, pulse 96, tongue moist with light yellow fur, and other conditions as above indicated. Breathing was more or less hurried on account of the abdominal distension; mind perfectly rational.

Considerable improvement occurred in the next few days, upon limiting patient's diet strictly to milk; stomach became retentive; bowels acted very nicely for four or five succeeding days, and the patient was thought to be decidedly convalescent, when alas! he was allowed to eat a considerable quantity of chicken-broth with crackers—he was seized with severe chill which was followed by a temperature of 105, very feeble and frequent pulse, colliquative sweat which verged on collapse. Reaction came up, however; the normal temperature was restored, and the pulse fell to 90. The chill was repeated in 24 hours, and he died in collapse.

Jaundice was not discerned during the course of the case, though I feel almost certain that critical examination might have disclosed traces of it.

Case 2. Saw James Gooden, aged 21 yrs., single, Sept. 27, 1884. Has been taking freely of watermelon for several days, but the feast of to-day was the only one followed by untoward results. A severe attack of colic ensued in a short time, which, in turn, was followed in a few hours by profuse diarrhoeal discharges, attended with a great deal of tormina and tenesmus. Discharges contain large amount of mucus, and have a most intolerable cadaveric smell. Severe periodical pains are complained of in the right hypochondrium, and about the ilio-cæcal junction; much induration and tenderness is noticed in the latter region; also marked enlargement of and tenderness over the liver. Skin slightly yellow. Temp. 100, pulse 84.

The case ran a very similar course to that of No. 1, but fortunately terminated in recovery, in about four weeks. One point of distinction, however, consisted in the continuance of the diarrhoea throughout the course of the disease.

The temperature twice reached 104, and was frequently found subnormal. There was, at first typhlitis or perityphlitis, from which ensued general peritonitis with the most distressing tympanites. Singultus and regurgitation of contents of the stomach, were troublesome features of the case. Careful dieting, with opiates, fomentations and blisters to the abdomen, constituted the principal treatment. There was but little perspiration at any time, no ataxic symptoms, and the tongue remained moist throughout.

Case 3. Dec. 30, 1884, visited W. T. Gray, aged 45 years; constitutional rigor below the average. (Two of his children had been sick prior to his attack; both of whom had jaundice. They were kept from school, treated with domestic remedies, and made a good recovery in about three weeks.)

The attack of Mr. G. has been gradual; attended with malaise, headache, chilly sensations, dizziness and constipation. Find the tongue dark red and dry, later became fissured; sordes on the teeth; sweetish and nauseating odor of the breath, somewhat resembling the smell of garlic, but more particularly the cadav-

eric, peculiar odor which precedes death a few hours, in many cases. Considerable thirst; slight nausea; pain, with extreme tenderness in the right hypochondrium and epigastric regions, also about the head of the colon; constipation of the bowels; liver very much enlarged; spleen, slightly; marked icteroid hue of the skin. Pulse 84, feeble, with throbbing of the arteries; temperature, 102. Wakefulness, but little delirium, stupor at times, giddiness, and light visionary anomalies, with ringing in the ears. Pupils dilated. Intense pain in the back of the neck and lumbar region much of the time. Is oppressed with a sensation of heat the greater portion of the time. Slight bronchial catarrh and hurried breathing, otherwise no disturbance of the respiratory organs.

The case terminated in recovery in about three weeks, recovery being tedious.

The bowels were usually constipated throughout; stools scybalous and decolorized.

There was retention of the urine for a short time, necessitating the use of the catheter.

The hands and feet were absolutely cold during the first part of the disease.

The following very well illustrates the behavior of the disorders of the disease:

J. H., aged 1 year, has been affected with severe cold for several days, with slight fever, but never refused to nurse or play till January 10, when the fever became violent and she very restless. Saw her at 10 a. m.; history with tendency to scrofula; bowels and stomach have appeared normal; is cutting the anterior-molars below and lateral incisors above; gums swollen; buccal mucous membrane inflamed, presenting the appearance of thrush. She is fretful and exceedingly sore, as evinced by the most distressing cries upon the slightest movement of the trunk. Intense thirst, mouth and tongue dry, disposition to protrude the tongue with rapid succession, and to grab in the mouth and seize the tongue with the fingers; urinary secretion normal in quantity. Pupils contracted, and obvious suffering in the head, manifested by squinting and squeezing the eyes tightly shut, as well as rolling the head from side to side. Pulse 140, and of a peculiar full but feeble, gaseous character; temperature 140; severe bronchial catarrh; (the latter being a concomitant attendant of the disease.) Skin dry.

12. No change in the temperature and pulse; extremities very cold, and red splotches on the cheeks; very sick at the stomach, with frequent retchings; frequent small discharges from the bowels, of very bad odor, containing a great deal of mucus, and attended with the most intense tormina and tenesmus; liver enlarged with the characteristic tenderness, which extends over the epigastrium, and more or less over the bowels.

13. No abatement of any of the symptoms of yesterday. Skin markedly jaundiced; thirst and nausea continue; almost constantly lolling and withdrawing tongue; anxious and wild expression of countenance; frequently recurring paroxysms of tormina, during which she would have marked convulsions.

14. Temperature 104, pulse 132, respiration 38, irregular; yawning or gasping frequently; head retracted or thrown back; no improvement of the nervous symptoms or bowels. Limited to a small amount of rice-water for nourishment.

16 Temperature and pulse lower; tongue dark and dry; noticeable improvement as to character and frequency of discharges; she kept the leg and arm almost constantly in motion (the spasm was most marked on this side); trem-

ulous movement of the extremities; has not voided urine for 24 hours. Solution of chloral was given occasionally to prevent spasms and allay nervous excitement, which seemed to act admirably. Her condition gradually grew more favorable, and by the 20th she was deemed fit to discharge. On the 28th there was a relapse; the temperature again reached a high point, and others of the above symptoms returned in proportion; but their duration was much less; and in a few days she was again dismissed.

Case 4. I will now detail very briefly a case of the mildest type, to which, happily, the majority of our cases bears the closest resemblance. January 20, 1885, saw Emma S., stout, hearty girl aged 10 years. She commenced complaining, three days before, of pain in the bowels, but more especially in the hepatic region and pit of the stomach. Also pain in the breast, with some cough. She is complaining of paroxysmal pain in the right hypochondrium and stomach, as if she might be suffering from bilious colic. Temperature 108, pulse 120, extremities cold, skin and conjunctiva yellow, pupils widely dilated, dizziness when she attempts to sit up; severe pain in the back and back of the head; stools of pale color, small and slimy; urine diminished in quantity; liver very much enlarged, and tender on pressure. Five days after the attack she was free from fever, and made a good recovery. As I am merely aiming to present the reader with a variety of cases of this peculiar disease, I shall not duplicate any one of them lest I become burthensome, but merely attempt to show the phases it may assume and yet maintain its identity. At times it may be so masked as to go undiscovered unless critical examination be instituted by one more or less familiar with its principal traits.

About September 1, 1884, I saw Robert S., married, aged 26, who has been complaining several days of malaria. The most prominent feature of the case, on physical examination, was hepatization of the right lung, with more than the usual amount of plenrisy. Was expectorating quite freely of the rusty sputa, and to all intents drifting to a favorable termination. Nor was there a cloud to cast a shadow over the case for the space of ten days, although in the time alluded to, the formidable issue in this case had presented itself in the shape of congestion of the liver, iliac tenderness and tympanites; but as the chest trouble was progressing to a favorable termination, no great fear was entertained, even though it were patent that we had more than one foe to contend with. He was taking freely of milk, which was well digested, and the fever had shaded off to the normal temperature, when, alas! the treacherously feeble pulse encouraged hypostatic congestion, and the most prostrating sweat (hyperidrosis) of collapse.

In this condition, with a temperature but little above 95, and the perspiration pouring down from the trunk and upper extremities, he remained for forty-eight hours. With the use of atropia hypodermically, dry friction to the surface, and many kinds of stimulants administered in all manner of ways, reaction was effected and the normal temperature was restored, only to be sacrificed in a few days by another and exactly similiar attack, which proved fatal. In this case there can be but little doubt that the essential fever (for such is the nature of these cases), was the primary, and the pneumonia the secondary disease, but the former was rendered indistinct by the inflammation of the lung. It was also evident that the essential fever contributed most to the fatal result.

Case 5. January 10, 1885. Rosa M., aged 25, married, and has had one child; was attacked with pain in the bowels while at church. On her return home, the usual domestic remedies were used without success. She had one or two loose decolorized stools during the night. Saw her January 11. Pain in the bowels paroxysmal, and described as of the most intense, grinding character. Pain in the back, head and limbs, with chilly sensations; extremities cold; skin decidedly yellow; temperature 102, pulse 75; liver enlarged and sensitive to the touch; also tumor large as goose-egg in right iliac fossa, over which the least pressure could not be borne, and from which sharp, lancinating pains radiated in all directions. This condition prevailed without abatement for four days, during which time there was the most unyielding constipation, with an extension of the iliac tenderness and swelling. Then the fever suddenly subsided, with profuse perspiration, cold extremities and feeble pulse—prostration almost to the verge of collapse. Herpes facialis, appeared and convalescence was declared. January 26, sixteen days after the first attack, she suffered a relapse, when all the above symptoms returned with renewed zeal, characterized by the same local and general phenomena, jaundice, etc. The periodical pain and diffuse soreness of the bowels proved much more unyielding than in the former attack. So severe, indeed, was the abdominal pain, that for a period of eight days she was not able to move from the dorsal decubitus, nor even move the legs without the most excruciating pain. The stomach was much disturbed, frequent eructations of bile and other offensive matter, and the peculiar bad breath. Respiration shallow, irregular, and frequently interrupted, with sighs and yawning; somewhat smothering and oppressed with heat. Circulation feeble, and marked by a peculiar *throbbing* of the arteries. No delirium, but dilatation of the pupils, giddiness of head, and ringing in the ears. Urine varied in quantity, sometimes above the normal, and again below; tendency to retention. Was examined for sugar, albumen, etc., by Dr. Joseph Eichberg, of Cincinnati, with negative results. The case is now improving, and the indications are that she will recover.

If the reader will bear with prolixity, I will briefly recapitulate a few of the more prominent features of the disease. Bronchitis is, perhaps, always present in a greater or less degree; jaundice in a large majority of cases, but may be absent; enlargement and extreme soreness of the liver is always present, with or without tenderness in the right iliac region. Vomiting is by no means present in all cases, but retching and gagging is frequently a troublesome feature with infants; may have either diarrhoea or constipation, but the latter is the rule with adults, and it is of the most obstinate character, giving rise to the suspicion in many cases that mechanical obstruction exists. In such cases bile, and even stercoraceous matter, are ejected from the stomach. Tormina and pain in the epigastrium are rarely absent through the whole course of the disease; abdominal walls may be rigid and retracted, or if peritonitis occur, tympanites will prevail; sordes may accumulate on the teeth. The appearance of the tongue is not characteristic of the disease. It may be dry and red, or moist or slimy with a light coat throughout, and a sweetish sickening odor of the breath. The pulse is feeble and halting (in infants when the cerebral predominates, irregular), may be much accelerated, or below the normal frequency. The temperature has no diagnostic value. It may be 104 degrees for several days with but little varia-

tion, and suddenly fall below the normal, or it may scarcely get above 99° during the whole course of the disease. In the latter case it is no special assurance of the safety of your patient. Delirium is the exception, but may be present. Giddiness, stupor, mental apathy, sluggishness are noticeable and even prominent after the first few days. Yawning and gagging, with shallow and irregular *sighing* breathing are noticeable features in bad cases, and more especially in infants. In the latter subjects there are tossing of the head, rapid protrusions of the tongue, and blinking or squinting of the eyes, a peculiar lateral movement of the arms and legs (may be cephalalgia), and oftentimes convulsions. There is generally a tendency to, or actual retention of urine, and the quantity may be increased or diminished, depending, in a measure, upon the condition of the skin, which may be dry and husky, or bathed in profuse perspiration.

It would be impossible to give the probable rate of mortality; but while the majority of cases are of short duration and attended with no grave symptoms, the mortality is very considerable, indeed. The disease prevails endemically without regard to age or sex, is not malarial, and has no malarial element, quinine being useless. It has followed in the wake of more or less typical typhoid fever, is very liable to take on complications, and may prove fatal in various ways. In infants the fatal result is due to cerebral complications, most likely to pachymeningitis. In adults the most danger is from diffuse peritonitis by extension of the iliac inflammation; also from chest complications, as in one of my own cases.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Papilloma of the Bladder.

Before the Clinical Society of Maryland (*Maryland Med. Jour.*, Jan'y 10, 1885), Dr. L. McL. TIFFANY related the following case from which he removed a papilloma of the bladder. The patient was female, 27 years of age, married, and had two children. She had passed bloody urine for eighteen months at intervals, no clots. On one occasion her attending physician found a gelatinous mass protruding from the urethra, which he cut off. From the history of the case a tumor was diagnosed, an anæsthetic was administered, and the urethra rapidly dilated. Upon examination a growth was felt at the left part of the fundus. With the index finger in the bladder a tube was passed, and the bladder filled with fluid; a growth with five stems was found floating in the fluid. As much as possible was scraped away with the nail; the bladder was again filled and scraped with an instrument. There was but little hemorrhage; that same evening she held her water perfectly, and has had no trouble since (June 4th, 1884). After operation the viscus was washed out with warm water. The doctor laid special stress upon the filling of the bladder with fluid as a means of diagnosis.

Chronic Bronchitis in Children.

Dr. J. CORNEY, in *Le Progrès Médicale*, says that this may be a legacy left by measles or whooping-cough, but it may also appear as a primary affection, and then its onset is insidious. It is attended with little constitutional disturbance, no elevation of temperature, and no disturbance of the ordinary bodily functions. Only the cough is frequent, often spasmodic and deep, and accompanied by expectoration if the child be old enough. Respirations do not appear notably increased. The child becomes, however, pale and emaciated. The physical signs are those of bronchitis; there is no diminution of resonance at the apices or bases of the lungs; there are sibilant and sonorous rhonchi, and subcrepitant dry or moist râles scattered universally over the lungs, the latter being most numerous at the bases, and sometimes confined to them. As improvement occurs the râles become limited to one side or to one base. The condition is much affected by climatic changes, being worst in cold, wet weather. Tubercle is liable to develop, the bronchitic condition offering a ready soil for the evolution of the tubercular poison. The affection occurs in children of a lymphatic or scrofulous constitution. The treatment employed is ipecacuanha in emetic doses once or twice a week. If the cough is troublesome, or prevents sleep, belladonna is administered, while for the constitutional condition cod-liver oil is

given. A number of cases are detailed, and the foregoing method of treatment appears to have been highly satisfactory.

The Spray in Ovariectomy.

Dr. JOHN HOMANS thus writes to the *St. Louis Med. and Surg. Jour.*, February, 1885:

●The following is an extract from a recent work by Dr. Emmet (Emmet's Principles and Practice of Gynecology, p. 715.) "In this country I do not know of any prominent operator who employs carbolic acid spray." The statement implies that the writer is not persuaded of the value of the spray in ovariectomy. My own experience has led me to an opposite opinion. Indeed, I should not like to do a laparotomy for any purpose without antiseptic spray. I have been led to this conclusion by the results of one hundred and eighty-three cases of removal of cystic ovaries, of which I have lost only twenty-one, but more especially by the results of the last one hundred of these cases, only ten of which were fatal, while thirty-eight were consecutively successful. I feel that to omit the antiseptic spray would be to deprive the patient of one of the ready and efficient elements of success. As I can hardly hope for much better results than those I have cited, and being quite content to let well alone, I shall hesitate before disturbing my present plan of operation, by giving up a detail to which I attach much importance.

The Vectis and Macroton.

Dr. W. E. ROGERS thus writes in the *Albany Med. Annals*, Jan'y 1885: Believing, as I do, that anything that promises to shorten the pains of labor and the dreary imprisonment of the doctor deserves attention, I will offer a few suggestions which have been repeatedly proved to be valuable in my own experience.

The vectis and macroton, in my hands, have proved powerful auxiliaries in shortening the hours of labor. I was instructed in the medical school never to take an instrument with me to the bedside of a patient. I have long since learned never to go there without one.

The vectis is my favorite instrument, and I seldom find it necessary to resort to the forceps. Many times when the pains were good, but when the head, though properly presenting, was not in just the position to glide along the oblique diameter of the pelvis easily, and the labor was thus retarded, I have, by slipping the vectis under that side of the head which was unduly pressing against the pelvis, lifted it into its proper place, and then, with a little traction, brought about the delivery speedily.

I have often been surprised at the rapid advancement of the labor when the pains are aided by the vectis. When the pains are inefficient and the os undilated and unyielding, I put five or six grains of *macroton* in half a teaspoonful of water, and give, every fifteen minutes, one or two teaspoonfuls. One of the first effects observed is a relaxation of the os and soft parts and an increased flow of mucus. The pains now soon improve, you slip in the little vectis, and when the uterus pushes, you pull, and in an incredibly short time the labor is accomplished *cito, tuto, et jucunde*.

I have seldom had any trouble with the after-birth when I used the macroton,

and in thirty-seven years' practice have never lost a patient, but have received much gratitude from my patients for their speedy deliverance.

The Diaphoretic Treatment of Puerperal Eclampsia by Means of Hot Baths.

BRENS (*Archiv. f. Gynäk., Edin. Med. J.*), has now reported two sets of cases placed under this treatment. The first set included six cases, with five recoveries and one death; the second set includes eleven cases with one death. The treatment consisted in placing the patient in a bath (88° C.), raising the temperature gradually, then wrapping her in blankets, thus securing profuse diaphoresis. Of the eleven cases four had convulsions at the beginning of labor, two during the first stage, one during delivery, and four after. In the majority of cases the eclamptic seizures were severe. In the fatal case the issue was more probably dependent on peritonitis, possibly septic, than on the convulsions. The two series together, then, afford a total of seventeen cases, with but two deaths—one of these latter not from convulsions. In eclamptic seizures the danger to life depends only indirectly on the convulsions. The main danger lies in the altered characteristic of the blood—hydræmia—and the consequent albuminuria and anasarca. These accompaniments of Bright's disease can best be met by profuse diaphoresis, a treatment which, while it can have little effect toward curing the kidney trouble, undoubtedly relieves the symptoms which are threatening the life of the sufferer. From the use of this hot-bath treatment Brens has seen nothing but good effects. It is not apt to cause either abortion, or premature labor, or hemorrhage; on the contrary he would advise the hot baths at any time of pregnancy when the appearance of albumen in the urine and coëxisting œdema causes apprehension of ill; indeed, they are indicated as a prophylactic measure. A striking case is recorded, when a patient, set 26, in her first pregnancy, highly dropsical with a large percentage of albumen in the urine, was subjected to the hot bath treatment at the eighth month, went to term, was delivered of a child weighing 2,700 gm., received during this interval forty-five baths with positive good effects, both as concerned her own condition, the continuation of the pregnancy, and the safety of the child. This treatment answers when eclampsia exists, and also in those cases where the occurrence of the eclampsia may be apprehended.

Laparotomy for Abdominal Tumors.

Before the Chicago Gynecological Society (*Chicago Med. Jour.* January, 1885), Dr. PARKES reported three cases—two of ovariectomy (successful), and one for uterine fibroma (with a fatal termination). There was nothing remarkable about the ovariectomies, but one of the cases was interesting from the fact that the patient came near losing her life by intestinal obstruction at the end of the third week. Such an occurrence was noteworthy, as serving to show that we should be on our guard against reporting "cures" prematurely. In the case of fibroma, supravaginal amputation of the uterus was performed. A solid rubber cord, a quarter of an inch thick, was thrown around the pedicle at the narrowest part, and drawn as tight as the operator's strength would allow, as a temporary ligature. The mass was then cut away about half an inch above the ligature, and

hemorrhage was seen to be wholly prevented, but, just as he had turned aside to place the severed mass on an adjoining table, and was about to take up the pedicle for further treatment, the rubber cord rolled over the free end of the stump, and the latter fell into the pelvis, out of sight, while the blood seemed to flow in torrents from its cut surface. Finally, the stump was grasped between the thumb and fingers and drawn out of the pelvis again, and the bleeding ceased. The pedicle was then transfixed and tied in two halves. The trouble would not have occurred if a temporary clamp had been used. The pedicle was dropped, and in closing the external wound great difficulty was met with in returning the intestines within the abdominal cavity, and keeping them there while the sutures were tied. After rallying from the anæsthesia, the patient vomited a great deal for a number of hours, and, after having ceased, the vomiting returned and lasted up to the time of her death, which took place forty hours after the operation. Only a very superficial autopsy was allowed; but this sufficed to show the cause of death to have been a gangrenous condition of about six inches of the ileum. The cause of this it was difficult to explain; for no twist had been found, and no noticeable injury was done to the gut at any time.

A Singular Monster.

Dr. S. BAILEY thus writes in the *Med. Age*, February 25, 1885: Not long since a gentleman called at my office and informed me that I might look for a call to his house at any hour, day or night. He explained by saying his wife was pregnant and the time was up or past a week. I inquired carefully of him the facts, and from his statements, which seemed pretty accurate, I concluded that he must be right. About two or three weeks after I was called to his house and found his wife in the early stages of labor. She is a young woman 23 years old, and this her first pregnancy. From my arrival everything seemed to progress normally, labor being completed in eleven or twelve hours. There was no trouble with the placenta and no hemorrhage. The child, when born, had at first sight the appearance of having its head bruised or flattened on the top, very little of the outlines of the head rising above the ears. The eyes were quite prominent or bulging. There was cleft palate, and the nose quite flat and no septum nares. The neck and chest normal. The arms and forearms were normal, but each hand had four fingers, no thumbs being on either hand, and really there seemed to be no place for a thumb, the first metacarpal bone of each hand being absent. The lower limbs were normal, except that the fourth and fifth toes of each foot were turned directly outward.

The strangest part of this curious little creature was its generative organs. There was nothing special to show whether it was male or female. About an inch below the pelvic arch there was a small opening about an eighth of an inch in diameter; on either side of this opening were two folds of skin resembling the labia majora, and inside of these could be felt two small bodies which from their size and form I took to be the testes. Surrounding the opening in all directions was a small surface of mucous membrane. Through the small opening the meconium passed; below the opening the surface was smooth, marked in the centre by the median raphe, which passed over the anus. There was also an imperforate anus, the surface where there might have been an opening being cov-

ered by a smooth, natural-looking skin. The little curiosity lived twelve days; it could not nurse, and could hardly take any nourishment. Small quantities of diluted milk were occasionally dropped into the mouth. It died of inanition the twelfth day. The father and mother are both strong, healthy, and well-nourished, and why such an offspring should be born to them I am unable to understand, as I cannot believe in that peculiar "superstition" (perhaps "theory" would be a better term) that any objects seen, or frights, strange stories, etc., have any influence in moulding the form of the unborn babe. But to those who do believe in such things, I will say for their consolation, that the mother of the creature just described, during the early months of pregnancy, visited a museum, and saw all the strange sights usually kept in such places in large cities. Her attention was mostly attracted to a large cage filled with monkeys, and she was very much interested in their antics. Will some profound theorist explain the cause of such a strange birth?

Peptonuria in the Puerperal State.

The *Med. News* (Jan'y 10, 1885) says: While the true significance of peptonuria is as yet undetermined, there is no doubt that it plays a part in a large number of processes, the majority of which are pathological. Recently Dr. WILLIAM FISCHEL has published, in the *Centralblatt für Gynekologie*, Nov. 11, 1884, some investigations on the occurrence of peptonuria in puerperal women, and has found that peptone is present in the urine in a large percentage of cases. Thus, in 156 tests of urine from 56 lying-in women, he found peptonuria 86 times. During labor and the twelve hours immediately succeeding it, he found no peptone. During the second and third day peptonuria is almost constantly present, having been found in 24 out of 25 examinations. From the fourth to the sixth day it was found in 37 out of 44 examinations; from the seventh to the tenth day in half the specimens examined. After that time there were two doubtful reactions, but peptonuria could not be asserted.

Eliminating all but the most typically physiological cases, there still remain 15 primiparæ and 25 multiparæ in whom peptonuria was found in about the above proportion. It occurred with living and still-born, full-term and premature births, and disappeared more rapidly the more rapid the involution. In contrast to this the urine in a case of Porro's operation, examined for six days after the operation, contained no peptone.

In seeking for the source of such a peptonuria it is to be remembered that Hofmeister has shown that it attends inflammatory and suppurative processes, and that, therefore, suppuration about the external or internal genitalia may be responsible for it in puerperal women. But Fischel ascertained that in his cases the external genitalia, at least, might be excluded with certainty, as these furnished in the primiparæ the most trifling, and in multiparæ absolutely no abrasions, and still less suppuration. Fischel himself learned that the lochia frequently contain peptone, but ascertained that during the second and third day it was seldom present in them, while the urine examined at this time always contained it. That the leucocytes in the puerperal uterus were also not responsible for the peptonuria seems likely, from the fact that their number is immensely less than in an inflamed lung, accompanying which the peptonuria is much less marked than that in the puerperal state.

Fischel is forced, therefore, to the conclusion that under certain circumstances the fatty degeneration of the muscular fibres, which forms a part of the process of involution of the uterus, is attended with the conversion of muscle albumen into peptone. Certainly in the substance of the fresh puerperal uterus, and almost exclusively in the muscular element, peptones are found. This Fischel has confirmed by the study of fresh specimens derived partly from operations—the hyperplastic uterus of tumors—and partly from rabbits killed sixteen and forty hours after delivery. On the other hand, he found no peptones in the non-pregnant uteri of animals nor in pregnant uteri which had not undergone contraction. In a single instance only did he find peptone in the endometrium.

With a view to comparing this condition with analogous ones, Fischel produced experimentally phosphorus poisoning, thinking that the fatty degeneration induced by it in the albuminous tissues would afford an analogy to the fatty degeneration of the puerperal uterus and result also, perhaps, in an analogous peptone formation. In nine experiments he found peptone in several organs, of which two were tissues which, in the normal animal, never contain peptone, viz., the liver and striated muscular tissue. It was found in organs which had not as yet undergone fatty degeneration. Fischel also examined the urine of pregnant women for peptone, and found it in one-fourth of the sixty-eight investigated. With regard to its cause under these circumstances, he only ventures to suggest that it cannot have anything to do with internal suppuration, and that it may be due to contractions of the muscular structure of the pregnant uterus.

Removal of a Vaginal Fibro-Myoma.

Dr. JNO. D. BRABRAY reports the following case in the *St. Louis Med. and Surg. Jour.*, February, 1885:

Mrs. B——, aged 38, a slight, delicate woman of nervous temperament, under the care of Dr. J. F. Tracy, of Craig, Nebraska, was suffering from a vaginal tumor of such size that the pressure set up a subacute inflammation of the bladder and caused a constant desire to evacuate the bowel; which, becoming so persistent, Dr. Tracy advised an operation for its removal, and sent for Dr. J. C. Moore, of Tekamah, as consultant.

Dr. Moore's advice coincided with Dr. Tracy's, and Sunday, January 11th, was the day set for the operation.

The history of the case given was, in substance, about as follows: Four years before, while attempting to lift a heavy tub of water, she felt something give way or snap, as she expressed it. This was followed by pains of a lancinating character, which lasted only a few hours when she maintained a recumbent posture. A month later she found that she was unable to remain on her feet for any length of time, and, upon examining herself, discovered a small lump or swelling just within the vulvar orifice. After consulting a physician, who failed to give her relief, she devised a pad or pessary, which was held in position by two perineal bands, and found that it answered the purpose nicely, maintaining the tumor in place and enabling her to attend to the lightest of her household duties.

About one year ago the tumor, which had remained stationary up to that time, began growing, and Dr. Tracy was called in. He used every endeavor to check

the growth, but to no avail. From him it was learned that the tumor had more than doubled itself in the last six months.

Upon examination, Dr. Moore found a hard lobular body of the size and shape of the largest California pear. It was situated a little to the right of the median line and in the anterior surface of the vagina, completely filling and distending the canal. It was covered by the mucous membrane of the vagina, which was tense and highly inflamed, with a tendency to slough in places. With much difficulty a sound was passed into the uterus, which was found to be about $3\frac{1}{2}$ inches in depth and very much anteverted. An examination of the cavity of the bladder proved it to have no connection with the tumor.

Dr. Moore pronounced it to be a fibro-myoma, the diagnosis proving correct.

On Sunday, Jan. 11, Dr. Moore performed the operation, assisted by Drs. J. D. Peabody and M. J. Gilkerson, of Tekamah, and J. F. Tracy, of Craig—Dr. Gilkerson giving the anæsthetic, equal parts of chloroform and ether from Squibb's Pharmacy. When fully anæsthetized, the patient was placed in the lithotomy position upon an ordinary kitchen table, the bladder and bowels having first been emptied.

The incision was made by a sharp-pointed bistoury, and was about two inches in length. Two fingers of the left hand were passed in, and the parts carefully dissected by their means and the handle of the scalpel. The tumor extended upwards and forwards, impinging upon the wall of the bladder, where it was attached by a few slight adhesions. A careful dissection succeeded in releasing the mass. Considerable hæmorrhage followed, but was easily controlled (after tying two small arteries) by application of vinegar, alum and iron. The cavity was thoroughly irrigated and sponged with a carbolized solution 1 to 40, the same strength in which all sponges, instruments and hands had first been bathed. The wound was closed by the interrupted suture, four stiches being taken. The canal was packed with carbolized absorbent cotton after inserting a drainage tube; a pad of carbolized lint was secured over the vulva, the patient bathed and put to bed.

She experienced no unpleasant symptoms, except the nausea from the ether, which was aggravated by a stomach trouble of years' standing. The temperature never reached higher than 101° .

The after-treatment was simple. The urine was drawn by a catheter, and the vagina washed out morning and evening with a carbolized solution of 1 to 60, and afterwards packed with carbolized cotton.

Liquid nourishment of beef tea, peptonized milk and wine-whey, was administered often in small doses.

Her recovery was rapid, the tenesmus, cystitis and excessive irritability have entirely disappeared, and the stomach is fast becoming stronger. Her strength is rapidly returning, and she feels better than she has since she was injured.

Suppurating Ovarian Cyst; Puncture; Drainage; Partial Recovery.

Dr. ARTHUR DE VOG writes in the *Am. Jour. Obstetrics*, December, 1884:—Miss J. M., aged twenty-three years, of healthy parentage, good habits and constitution, "caught cold" during the second week in January, 1883, during her

menstrual period, after overwork and exposure while engaged in nursing a sick brother. The menstrual flow was suppressed, and great pain was complained of in the region of the left ovary, which continued for several weeks without external abdominal signs. Then suddenly in two days' time (from Friday morning till Sunday), there occurred extensive enlargement of the abdomen; according to patient's report, she then suddenly grew as large as she afterward appeared at time of the first tapping. Pain continued excessive for a period of six weeks after the beginning of swelling. She was greatly wasted by fever. Purgative, diuretic, and sudorific preparations were freely administered, and blisters and jugs of hot water were used externally. In March, her condition became somewhat improved as to general comfort and strength, but the swelling remained unabated. She was now brought from a distant city to her friends in this country. I first saw her on April 28th, 1883. She was greatly emaciated, pulse 120, temperature 102; suffering from sleeplessness, anorexia, diarrhœa, dysuria, and the great burden of abdominal pressure. The rotund contour of abdomen, transmitted aortic pulsation, history, etc., indicated a cyst. I soon became assured that patient could not long endure the great strain and waste that were bearing her down. Surgical assistance of some kind was the only hope. On May 4th, Dr. Chas. M. St. Clair saw the patient with me, and approved and performed at once the operation of paracentesis abdominis with a common trocar and canula. About nine quarts of thick, creamy, fetid fluid was drawn off at this first tapping. Cyst rapidly refilled, and the inflammatory symptoms rose higher than before the tapping; the pulse rising to 136, and thermometer registering 102½. On May 29th I tapped her again, and a slightly reduced quantity of fluid was withdrawn, and the cavity washed out with a 5% solution of carbolic acid. For a short time after this there was marked improvement in appetite, pulse, temperature, and sleep. But the cyst soon filled again. On June 11th, Dr. Thomas St. Clair, of Indiana, an experienced ovariologist, saw the patient with me, and advised puncture and permanent drainage, which was inaugurated at once. This time the cavity was washed out with weak tincture of iodine. This injection, gradually increased in strength up to the officinal tincture, was repeated many times after intervals of a day or two. A rubber drainage-tube was retained constantly in the cavity. The injection was made with a common hard-rubber syringe, and the fluid withdrawn by the same means. Improvement was prompt and rapid, the cyst contracting in a few weeks to quite small dimensions. Patient has taken on considerable flesh, and is now able to do a fair share of housework. At this date, Aug. 28th, 1884, she still wears the rubber drainage tube in cyst, which now has a capacity of only a few drachms. The drainage-tube has been her constant companion for over a year. Patient believes that if she should now attempt to dispense with the tube, the cyst would soon refill and enlarge. If so, an attempt at ovariectomy might then be warrantable, although the extensive adhesions unquestionably present might render removal of the cyst very doubtful. The continued presence of the drainage-tube carries but little danger with it.

I would call attention especially to the following points in this case:

First. The extreme pain and acuteness of all symptoms at the beginning.

Second. The very sudden and large development of the swelling.

Third. The successful drainage and injection of a large suppurating cyst,

through an incision effected in the ordinary operation of tapping, and through which air was frequently admitted to the cavity of the cyst.

Fourth. The very long and apparently harmless wearing of the drainage-tube.

Remote Puerperal Hemorrhage.

Before the Obstetrical Society of New York (*Am. Jour. Obstetrics*, Jan'y, 1885), Dr. THOMAS stated that he had recently met with two cases of what the late Dr. McClintock called "remote delayed puerperal hemorrhage," and on which subject Dr. Mundé had lately written an article in the *Am. Jour. of Obstet.* The speaker had seen a good many such cases. Generally the uterus has contracted well after delivery, and nothing abnormal occurs until the ninth day, when the physician has ceased his daily calls. Thenceforth hemorrhage occurs after unusual physical efforts or mental excitement, and may be so severe as to require the tampon to check it. Or else, there may be a steady moderate loss of blood for eight or ten days, until the patient is much exhausted. The following case is typical of a good many of that class.

Dr. Thomas was called in consultation by a German physician of considerable experience, to see a lady who had consulted the speaker ten months previous for a peculiar condition. Although married several years, and though both she and her husband were healthy and well formed, no intercourse had taken place on account of an aggravated form of vaginismus. An operation was performed, the patient left the hospital after one month, and nine months later gave birth to a child. Near the end of the seventh month of pregnancy, the veins leading from the labia majora enlarged considerably, until the parts resembled a mass of earth-worms the size of a fist.

Hemorrhage set in on the ninth day after delivery, which her physician was unable to arrest by all the ordinary means. The tampon had not been tried. About three weeks after delivery a very profuse hemorrhage again occurred after the patient had got out of bed. The flow had stopped by the time her physician reached her. Each hemorrhage was preceded by the passage of a large blood clot. Dr. Thomas was now consulted, and he visited the patient three days later, fully prepared for removing the remains of membranes, although her physician was positive that the placenta, on careful examination, appeared perfect.

When the patient had been placed on the table, and the ether-cone applied, she sprang up excitedly, and could not be induced to continue the inhalation, as it had affected her badly on the occasion of the previous operation for vaginismus. Some of her friends desired that she should be compelled to take the anæsthetic, but Dr. T. refused, because he had seen violent mania result under such circumstances. The operation was postponed till the next day, when Dr. T. etherized the patient, dilated the uterine canal, and with the curette removed three pieces of placenta, each the size of his index finger. The operation caused very little hemorrhage, and the speaker felt that with these remnants he had removed the cause of the trouble.

The points of interest in the case were: 1st, the vaginismus; 2d, the state of the veins of the vulva; 3d, the danger of giving ether during maniacal excitement; 4th, the usual cause, in Dr. Thomas' opinion, of the delayed puerperal hemorrhage, and its proper mode of treatment.

No reliance can be placed on the statement that the placenta has been examined and found entire, for as a rule the examination is superficial, and small pieces may have broken off and remained behind which the most careful inspection of the afterbirth would fail to reveal. In all cases of this class which the speaker has seen, the hemorrhage was due to retained placenta or membranes.

Hydrocele Muliebris.

From the *Am. Jour. Obstetrics* (February, 1885), we learn that before the German Gynecological Society, HENNIG, of Leipsic, read a paper on this subject in which he said, hydrocele in the female occurs very rarely. In literature H. was able to find only 39 cases; he himself has observed 2. Aside from the general gynecological interest claimed by the affection, it deserves attention also from the obstetrician, inasmuch as hydrocele of the female may retard or even prevent delivery, and furthermore because exudations during the puerperium—three instances are on record—may pass from the abdomen through the inguinal canal into the peritoneal process. Worthy of mention, too, is a case in which sterility of fourteen years' standing ceased after the operative removal of the hydrocele.

Wile, Cairoli, Regnoli, and Chiari have most thoroughly investigated the subject of hydrocele muliebris. Zuckerkandl examined the bodies of 19 girls from the first to the twelfth week of life. In four cases he found a so-called diverticulum of Nuck; three were bilateral. If the hydrocele communicates with the abdominal cavity, the contents of the former may be expressed into the latter. Sometimes several small sacs occur along the course of the round ligament. Occasionally, especially after an injury, they may enlarge and become inflamed. Accumulations of fluid occur also in the cellular tissue around the round ligament. Cysts of the round ligament derived from the peritoneal process lie in front of the latter.

Hydrocele has been observed at various ages, from the seventh to the seventy-first years of life; more frequently in parous women than in the unmarried and nulliparæ. Eight were on the right, six on the left side, two bilateral. Of 40 cases, 25 were complete hydroceles filling the inguinal canal. Of these, only three no longer communicated with the abdominal cavity. Of the others 15 were closed cysts. In five cases the contents were sanguineous. Several cysts were multilocular, in which cases the cysts lay one behind the other, the largest in front, smaller ones in the inguinal canal.

The affection begins painlessly. At first the swelling is slight, and disappears in the recumbent position. A febrile commencement is rare. But fever ensues as soon as the hydrocele inflames. This may occur in consequence of excessive tension. Erysipelas has been observed even where no operation has preceded.

As to diagnosis, hydroceles have been repeatedly mistaken for hernias. The diagnostic auxiliaries may fail to a great extent, as for instance the translucence to candle-light, which succeeds only when the accumulated fluid is encapsulated. Tympanitic resonance on percussion is not applicable, because hernia and hydrocele may co-exist, and because three cases have been observed in which the contents were sanious and gases had formed. Often, but not in complicated cases, the hydrocele is broader below than above. Adherent hydroceles are irreducible, the same as hernias of cæcum and colon. Epiploceles show on palpation a

more uneven quality and firmer consistence. In order to determine the diagnosis, exploratory puncture may be performed, of course with the greatest caution. If the hydrocele inflames, vomiting may occur; but there is an absence of the prolonged constipation which is the rule in strangulated hernias.

Very peculiar are those cases in which gases of decomposition have formed in the hydrocele, which, however, do not ascend into the abdominal cavity. H. believes that in such a case there is a temporary occlusion by means of a semilunar valve. We must also take into account the oblique direction of the inguinal canal, and the tone of the abdominal muscles in vigorous women. Twenty-three cases were cured; in five others a relapse ensued after the sac had been evacuated; once an epiplocele formed in the sixth month of the succeeding pregnancy.

The treatment may dispense with operative interference. It then consists in taxis and the wearing of a truss until the canal has become closed by adhesion. In two cases simple puncture was followed by recovery; in others, tincture of iodine was injected; in still others, the hydrocele was incised and the sac stuffed with charpie. Where the contents are septic, the employment of antiseptic irrigations is self-evident.

H. cured one case by drawing an iron wire through the cyst and leaving it *in situ* until the walls had become adherent.

His second case was very peculiar. The patient was a woman aged 36, whose last labor had occurred fourteen years before. The hydrocele was situated between the right labium majus and the external inguinal ring. The case, therefore, was a hydrocele inguinalis interna. Reposition through the inguinal canal did not succeed. A puncture was made. The fluid evacuated was sticky, pale-yellow, strongly albuminous. The microscope showed delicate pavement epithelia. The cyst gradually refilled. H. then injected twice, at intervals of several months, Lugol's solution. Each time inflammatory symptoms, as in a slight erysipelas, appeared around the point of puncture.

From that time forward, an increasing swelling of the abdomen could be demonstrated, without the possibility of definitely determining the presence of a tumor. The supposed ascites was evacuated by puncture; very soon the abdomen again enlarged. Laparotomy was therefore performed. During the anæsthesia, when the patient coughed, an enlargement of the right hydrocele could be observed, as well as another one on the left side, not hitherto noticed. A tumor, a multilocular cystoma, was removed. At the same time a large quantity of fluid escaped from the abdominal cavity. After that the hydrocele collapsed. On the cystoma were found four small openings. H. assumes that it had perforated early, and with its escaped contents had filled the right peritoneal process. The fact that the hydrocele could not be reduced he explains by the presence, as above mentioned, of a valve-like arrangement at Poupart's ligament, the effect of which was aided by the oblique course of the inguinal canal and the abdominal pressure.

The Operation of Shortening the Round Ligaments for Remedying Uterine Displacements.

Dr. WALTER RIVINGTON, thus writes in the *Brit. Med. Jour.*, February 28, 1886: On looking over some back numbers of the *Journal* in 1884, which I had failed to

peruse, I lighted on a paper by Dr. Lediard, Dr. Reid, and Dr. Elder, on the "Alexander-Adams" procedure of shortening the round ligaments for uterine displacements. Dr. Lediard referred to a paper by Dr. Alexander in the *Medical Times and Gazette* for April 1, 1882; and on turning to the paper, I find that Dr. Alexander observes: "It seems to me rather suprising that such a simple, rational, and effectual operation had not been thought of before." The fact is, that the operation was thought of and suggested by myself about fifteen years ago, and I have been advised that I ought to unearth a demonstration on the dead subject which I made in 1869, and published in the *Medical Press and Circular* in 1872. In the course of anatomical teaching and lecturing, it had occurred to me that relaxation of the round ligaments must be an important factor in uterine displacements, and especially in prolapse; and in describing these structures, I always insisted upon their value in retaining and replacing the uterus its normal position. An opportunity presented itself for testing my views.

A woman, 45 years of age, was admitted into the London Hospital on May 12th, 1869, in a very exhausted state, with a strangulated left femoral hernia; and, though there was small prospect of her recovery, I was obliged to relieve the constriction. The gut was found to be perforated and gangrenous, and the operation, as I anticipated, did not succeed in rescuing her from death. Apart from the condition of the intestine, the patient was very stout, and an unfavorable subject for surmounting so serious a lesion. In reporting her case in the *Medical Press and Circular* in 1872, I appended the following remarks: "The patient was afflicted with prolapsus uteri, and the womb having descended nearly to the vulva, Mr. Rivington thought it a good opportunity to test the share taken in prolapsus uteri by loss of power and stretching of the round ligaments. It had previously occurred to him that their relaxation might be an efficient factor in the causation of the complaint. Exposing the round ligaments in their canals, he found that, by drawing on them simultaneously at the external rings, the uterus returned readily to its place. There are some who deny the existence of prolapsus uteri, maintaining that the affection so designated is an elongation of the cervix; but there could be no doubt here of the reality of the prolapse, nor of the effect of shortening the round ligaments on the position of the uterus.

As the subjects of prolapse rarely come into the surgical wards, but congregate in the obstetrical out-patient department, I brought the matter under the notice of the assistant obstetric physician, now deceased, and suggested to him that the operation might be found useful in certain cases not amenable to simpler treatment. He was not favorably impressed with the proposal, and I abstained from taking further steps to promulgate my suggested operation, solely for fear that it might be attended at that time with more harm than good. These were times when Listerian principles and practice had not taken root in the metropolis, and when the fear of peritonitis oppressed the surgeon far more heavily than it does now. I was afraid that cases would be met with in which it would be difficult to find the ligaments, others in which the canal of Nuck might be patent; and that, in such cases, there would be risk of wounding the peritoneum, and perhaps inducing fatal peritonitis. That this fear is not chimerical, is shown by Dr. Alexander's testimony. "Experiments on the dead subject," he observes in the paper above quoted, "have shown me that danger may arise from incautious operators."

Since I became a disciple of Professor Lister, I have waited in vain for a case in which I could put my suggestion into practice; and while I have been waiting, others have stepped down before me. The irony of fate is in the habit of supplying cases before the times are ripe for dealing with them, and carefully withholding them when the physician or surgeon is anxious to introduce some new and feasible method of procedure. Experience of this kind is, doubtless, as familiar to others as it has been here and in other instances to myself. When Esmarch's bandage was introduced, it at once occurred to me that it might be employed in the treatment of aneurism of the limbs, but no case was forthcoming till long after it had been employed successfully for this purpose. I suggested its use to a colleague, but he at once decided that it would be a very disastrous procedure.

On the present occasion, I am consoled with the circumstance that there is a record of the conception and suggestion in printers' ink on which the finger can be laid, and which can be accepted as evidence of truth. In calling attention to it, I have not the smallest wish to detract from the merits either of Dr. Alexander or Dr. Adams, of Glasgow, in planning and introducing the operation. The success which has attended it is gratifying, and I am glad that the idea sprang up in the minds of those who had opportunities for proving its efficacy. But very possibly some prior claimant may yet appear on the scene; for it is the lot of man to make observations and discoveries which have previously been made by somebody else. Dr. Gowers aptly observes: "There are very few observations in medicine regarding which it is not obvious that they would have been made by some one other than the actual observer; that it was very much of an accident that they were made by certain individuals." (*Diagnosis of Diseases of the Spinal Cord*, p. 11.)

In times of feverish activity and competition like these, delays in publication are essentially dangerous; and, if I may poach on the domains of my colleague Mr. Jonathan Hutchinson—or, as he would put it, "plough with his heifer"—I would strongly inculcate the wisdom of the sacred proverb, "The slothful man roasteth not the meat which he took in hunting, but the substance of the diligent man is precious."

Remarks on Labor-Pains.

Before the German Gynecological Society (*Am. Jour. Obstetrics*, Feb'y. 1885.) SCHARZ of Rostock read a paper on this subject, stating by way of introduction that he had commenced his investigations into the forces of labor and labor-pains as early as thirteen years ago; that he had suspended them for various reasons, but had always resumed them from time to time, and had devoted himself to them again particularly during the past year. The results obtained, not hitherto published, form the subject of his paper. He speaks, in the first place, of the force of the pains.

The intrauterine pressure produced by the contraction of the uterus never exceeds 100 mm. of mercury, taking the interval between the pains as the zero point; but generally it reaches only two-thirds, one-half, or even one-third of this height. In the beginning of labor, the pains show only a moderate height of pressure. Therefore, the uterus does not make only one kind of maximal contractions, as does the heart. Still the maximal pains occur comparatively early,

and then maintain almost the same height in the further course of labor. The assumption that the force of the pains increases with the resistance is erroneous. With greater resistance, the uterus simply acts longer, and the pains occur more frequently. Withal it is indefatigable, provided the pains succeed at regular intervals, and the pauses last at least one minute. But if the pause becomes too short or disappears completely, fatigue ensues very rapidly. In the grouped and combined pains, where the pause is but short or incomplete, the first pain is the highest, the succeeding ones are lower. Inasmuch as this phenomenon may last for hours, thus excluding accident, the author ascribes it to defective nutrition of the uterine musculature during the too short or incomplete intervals.

S. next turns to the question whether the height and force of the maximal pain undergoes an alteration during labor, owing to the thickening of the uterine wall. It seems natural to reason that, as the evacuation of the uterus proceeds and the wall thickens in consequence, the intrauterine pressure rises. However, it is about equally true of smooth as of striated muscle, that its effect declines as it shortens. The force-increasing effect of the thickening of the uterine wall is almost neutralized by the force-decreasing effect of the shortening of the muscle. Accordingly it was demonstrated by measurements that the force of the pains in the course of labor remains nearly constant or rises by only about one-fourth. S. holds the recognition of this fact to be important in estimating some parturient processes and curves.

The type of the pains generally remains approximately uniform in the same woman. But cases occur—and they are not quite rare—in which the pains appear in groups of two to four, followed by a prolonged interval; while the pauses between the several pains belonging to one group are considerably shorter and may even be nil. S. calls these, combined pains. They may make the false impression that we are observing a single pain of unusually long duration. This impression is gained through the applied hand. It is peculiar to the combined pains that the first of the group reaches the highest pressure, the succeeding ones decreasing more and more. S. ascribes this behavior to an incomplete removal of the fatigue-products during the interval between pains.

The speaker then considers the question whether and to what extent are we able to influence the contractions of the uterus. In his opinion, we can thus far do but little in this respect. With the increased irritability of the uterus toward the end of pregnancy, or during labor, we can provoke pains recurring rhythmically, but only in a reflex way. All the contractions excited directly are irregular. They should be employed only when the production of a general spasm of the uterus is indicated. But this is not the case during true labor. Here only such contractions should be produced as have originated in the uterine centre, or the provocatory irritation of which has passed through the latter.

S. then searched for agents capable of influencing the centre of contraction directly. He returned to ergot. Heretofore the view prevailed that it provoked a tetanic state of the uterus, and hence is not applicable during labor. S. convinced himself by appropriate investigations that this view was not borne out. Inferior preparations, defective knowledge of their effects, uncertainty of dosage, have, in his opinion, led to wrong conclusions regarding the drug. He demonstrated that ergot does not at once lead to a tetanic contraction of the uterus, but

is followed merely by a central acceleration of the pains. Of course, if the dose is excessive, if the effect is too powerful, the pains succeed one another too quickly; there is no longer any interval between the pains, with normal lowering of pressure. Finally tetanus may ensue. In order to avoid this excessive effect, only such doses must be employed as will be followed by no more than seven pains in one-quarter hour. With the preparations of ergot hitherto in use, such a limited influence on uterine activity could not be attained, despite careful dosage. S. therefore instructed several pharmacutists to strive to prepare a fluid extract which should neither spoil nor lose its uniform activity for the period of one year. The preparation furnished by Mr. Kohlmann, druggist (Leipzig-Reudnitz), is said to answer these requirements admirably. Of this extract, S. gives twelve drops in order to increase the frequency of pains from four to seven in one-quarter hour. The intended effect ensues regularly after the lapse of one-quarter hour. It is erroneous to repeat the dose after one-quarter hour. In this way a cumulative effect is too liable to be produced. A second dose, where it appears necessary, should not be given before the lapse of one-half, or better, one full hour. It is best to limit one's self to one dose. At all events, the preparation requires the supervision of a physician; it should not be intrusted to the hands of a mid-wife.

The speaker passed around a sample of the fluid extract prepared by Kohlmann, now six months old, which has still a good appearance, and a fresh, agreeable odor. He also showed a series of curves illustrating the transition of normal into too frequent pains and into tetanus uteri.

Winckel (Munich) inquired whether S. gives this preparation also in the first stage of labor—a practice heretofore rejected; also whether, besides augmenting the frequency of the pains, the height of pressure of the single pain is increased.

Schatz answers the former in the affirmative, the latter in the negative.

Prochownick (Hamburg) has had a fluid extract of ergot prepared according to the American pharmacopœia, but he has not used it early in labor. He exhibited a curve produced in a rabbit after giving an infusion of cotton-root bark.

Kuestner (Jena) thinks it desirable to employ a simpler instrument than Schatz's tocodynamometer, as the latter records, not normal, but pathological contractions. The introduction of a foreign body into the uterus, which Sch.'s tocodynamometer requires, is followed by abnormal pressure relations. He proposes, after the birth of the first twin and the cutting of its cord, to put the vein of the placental end of the cord into connection with a tocodynamometer. He believes that thus a more reliable curve will be produced.

Fränkel (Breslau) inquires what was Schatz's experience with his preparation in the third stage of labor.

Schatz (Rostock) replied to the last question that, after the expulsion of the placenta, he had given twenty drops with good effect. In answer to Küstner, he stated that the effect of the tocodynamometer introduced into the uterus manifests itself for only about fifteen minutes, but then disappears.

On the Value of Quinine and Some of its Congeners as Parturients.

Dr. ANDREW MULLAN thus writes in the *Brit. Med. Jour.*, February 28, 1885: It has been said that, as civilization advances, labor, on account of the more complex and artificial mode of living, from being a normal and physiological, tends to become more and more a pathological process. Whether this be so, it would be very difficult to prove, as many factors come into play, many of them opposed to each other. However it may be, most medical men in large midwifery practice have met with many cases more or less tedious, yet without complication, which lost them much time and cost them anxiety. Active interference by any of the agents usually described, medicinal or instrumental, was contraindicated, and the medical man would fervently re-echo the wish of the patient or her friends that something could be done for her, without knowing how or with what it was to be done. If the medical man be near home, he may leave the patient, with directions that he should be sent for when labor has fairly set in. But if he be many miles from home, and the patient be a multipara, he will feel difficulty in deciding to do so. If he return, he will be anxious as to how the patient is getting on. Of course, the medical man has no right to do anything which might endanger the patient for his own convenience, but this delay is often as bad for the patient as inconvenient for the doctor. The patient becomes exhausted with hope deferred, and with frequent resort to various homely devices for quickening labor which have little power to effect it.

The causes of delay in the cases to which I refer are, in primiparæ chiefly, some rigidity of the os or cervix which I would call firmness, in contradistinction to the other term, which suggests greater degree of condensation of tissue, and, in multiparæ, want of contractile power in uterus from loss of tone (1) caused by bad health, or want of rest; (when the latter is very markedly the cause, a dose of opium or chloral, and some hours' rest are indicated); (2) from anxiety or timidity; (3) inertia, cause undiscoverable.

In some of these cases, Barnes's dilators are of service; but anything that looks like instrumental interference, especially in an early stage, and when not urgently required (in their eyes, at least), would be received with much more distrust by very many, and, in fact, would not be permitted; in other cases they would not seem to be suited—certainly not so well as the means I propose.

It is generally accepted that ergot is contraindicated until the os is two-thirds dilated, and certainly if there be any rigidity. Now, here was a case, which I take from my note-book, a typical case, but resembling more or less closely a vast number I have met with.

Case I. I was sent for at 7 a. m., to see Mrs. B., primipara, a strong, healthy young woman, who had labor-pains during the night. The patient lived four miles from my house. The os admitted the tip of the finger; the vagina was rigid. I left at 12 noon, and was sent for again next morning. The patient had pains during the night, now few and weak. I gave a hot enema. The os remained rigid. At 1:15 p. m., I gave five grains of quinine in powder; pains soon came. In half an hour, I repeated the dose; strong pains set in; the os dilated; the head descended to the perinæum; but the pains failed somewhat. A third dose of quinine was given; the pains improved. The child being very large, the

delivery was completed with forceps. All went well. Now, in this case, ergot was absolutely inadmissible; had it been used, one result of it, from what I have had too good reason to know of its action, would have been the death of the child. The use of Barnes's bags would have been very difficult.

Case II. Mrs. C., in her second confinement, had had pains off and on for a week; she had little sleep at night. The pains were now (12 o'clock at night) few and weak. The vagina was not relaxed; the cervix was a tough or semi-rigid tube, admitting two fingers. At 1:40 a. m., five grains of quinetum were given, and two like doses at intervals of three-fourths of an hour. Pains set in strongly; the os gradually dilated. When the distended bag of waters began to press on the perinæum, the pains slacked a little, and the patient asked for another dose of the medicine. I did not give it, but completed delivery by the vectis, about 7 o'clock. The uterus contracted well. What would have been the result of giving ergot here? On first seeing the patient, I had much debate with myself whether I should not have given opium or chloral to produce sleep, and then have had to wait many hours, or to go away with some anxiety of mind.

Case III. Mrs. W., multipara, in her eighth confinement, was a strong woman, but excitable and fanciful. At 9 p. m. labor was slow; the pains were inefficient. The head was at the brim; the membranes were whole; the os was of the size of a florin, dilatable. At 1 a. m. five grains of quinetum were given; in twenty minutes strong pains set in, which brought the head well into the pelvis. The child being large, delivery was completed by forceps.

Case IV. Mrs. M., in her eighth confinement, was a thin, anæmic creature. Labor had been lingering for four days; the pains were few and inefficient. The membranes were whole; the cervix was tubular, admitting two fingers. At 3:30 a. m. eight grains of quinetum were given; good pains started; the dose was repeated after some time. When the head was on the perinæum, I gave ergot. She made a good recovery.

I could give other cases, showing that quinine or quinetum strengthened, where ergot failed; but it is better to state the conclusions derived from its administration in many cases during the last seven years.

On account of cost I tried muriate of cinchonin, but it produced headache, and few or no pains. I tried quinetum, and found it answered well.

1. Quinine or quinetum, in doses from four grains and upwards, in powder, will start pains afresh in twenty or thirty minutes. Repeated at intervals of half an hour or an hour, it will maintain them strong.

2. It produces no headache—hardly ever a trace of the cinchonism caused by similar doses under other circumstances—nor sickness, the bitter taste being the only disagreeable circumstance connected with it.

3. The pains it produces are not continuous, like those of ergot, but intermittent, like those produced by normal labor, and evidently not the result of a special stimulus exerted over the uterus only, but of a tonic effect exerted over the whole economy. The patient often feels stronger.

4. The action produced when ergot is given alone, in cases where the patient has been exhausted, seems often to be spent in the delivery of the child, leaving the uterus in a state of exhaustion, unable to contract upon and expel the placenta, allowing hæmorrhage, and necessitating extraction. Such is not the case when quinine is properly used, ether alone or before the ergot.

5. It can be used where ergot is absolutely contraindicated, with perfect safety both to mother and child. In one case five or six hours intervened between the giving of the first dose and the onset of pains and the delivery of the child, yet all was right. Except in one case, I do not remember a child having been born alive, when more than two hours elapsed between the administration of ergot and delivery. Contrast with some of those cases the following, which I met with before I found out the use of quinine.

Mrs. C., a healthy-looking, fairly strong young woman, was in her first confinement. Labor was tedious; the pains were few and weak all night. At 9 a. m., the head being well down on the pelvis, and the os well dilated, a drachm of ergot in fresh infusion was given. There were no pains at all. At 10:30, I gave 40 grains of ergot in infusion. Some pains appeared. At 11 a. m., I applied the forceps. The pains almost ceased, I believed from the fears of the patient. For family reasons, she was most anxious to have a child; yet, from the first, was most apprehensive of it. She was delivered in about half an hour or three-quarters. The child, a large one, was born dead. In such a case I would not now think of giving ergot, but I would give the quinetum, in full confidence that pains, more or less efficient, would be produced by it, and certainly that no harm would be done.

In short, we have in this agent effective means of dealing with tedious uncomplicated labor, which may be briefly described as *tuto, cito, et jucunde*. The good is not confined to the delivery of the child, though that is the point with which I wish to deal; but I believe I have also noticed the antipyretic and antiseptic influence of quinine in the more satisfactory recoveries than I used to have. I can confidently recommend it to my brethren as an invaluable addition to their obstetric *armamentarium*.

Two Unusual Cases of Uterine Hemorrhage.

Dr. Geo. T. McCoy thus writes in the *Amer. Jour. Obstetrics*, February, 1885:

My excuse for the infliction of this paper upon the medical profession is the rarity of the forms of hemorrhage mentioned, and the meagreness of literature upon the subject; and it is the wish of the writer that this paper may be the means of drawing out, from some one thoroughly competent to deal with it, an article treating upon the pathology, etiology, and treatment of either of these forms of hemorrhage.

My first case is one of great peculiarity, and, if I may judge from the literature upon the subject, without a parallel.

Mrs. M., æt. 20, well developed and in perfect health, was married Oct. 4th.

Oct. 7th, I was called at 8 p. m., to her assistance on account of violent hemorrhage, from which she had fainted. The urgency of the case did not admit of delay, and, taking some things for granted, I proceeded to make a vaginal examination.

I discovered very readily that her virginity had not been sacrificed, being unable to introduce the first phalanx of the index finger without an amount of force that I hesitated to make use of, if it could be avoided. Suspecting that I had a form of pudendal hemorrhage, I examined the genitals carefully with a light, and with negative results. With a more careful examination, I was enabled to de-

termine that the hemorrhage came from the upper part of the vagina or the uterus. I gave a large dose of ergot, applied cloths dipped in ice-water to the hypogastrium, and gave an injection of ice-water per rectum. The hemorrhage was soon controlled, a slight flow continuing for a day or two; patient kept her bed until October 10th, suffered no further inconvenience, and made a rapid recovery.

Being very intimate with the parties, and expecting to be continued as their physician, I stated to them the rarity of the case and asked them to give me all the information in their possession as to the origin of the hemorrhage. The following is the history obtained from them, which I have every reason to believe, as in my subsequent acquaintance with the parties I have found them truthful, chaste, refined, and thoroughly reliable; and there could have been no reason for concealment or misrepresentation.

She was first approached by her husband on the night of the sixth of October, soon after retiring. Being a very timid lady, his advances were not encouraged, but, on the contrary, were resisted. Several attempts being made during the night, and the excitement being kept up until nearly morning, the husband prudently desisted, without resorting to force, and the act was not consummated. The sexual organs were not brought in contact at any time, and the wife's reluctance was from sheer timidity and a "fear she knew not what." On the morning following she noticed a blood-stain on her clothing and applied a "safety napkin." This stain surprised her, as it was just two weeks from her last menstrual period. During the day (October 7th) she, in company with her husband and another gentleman and lady, took a long ride in a carriage. Nothing occurred during the ride to excite her in any way, and the road over which they went was smooth. Slight flow continued during the day, and only became violent after leaving the carriage. While making some changes in her toilet, she experienced a gush of blood from the vulva, and in a very short time fainted, and her fall upon the floor alarmed her friends in the room below.

She missed her next menstrual period, and soon after became pregnant. I have delivered her in four confinements, all normal, no tendency to hemorrhage. The menstrual discharge, both before and since, is rather less than usual.

The hemorrhage in this case was undoubtedly due to congestion or hyperæmia of the sexual organs, the result of their prolonged excitement. I am satisfied the hemorrhage was from the uterus; I cannot conceive of any other source.

The second case occurred quite recently, and was of that form of hemorrhage denominated "Secondary Puerperal Hemorrhage." This is also rare, and I have been unable to find many recorded cases, and the literature is mostly statistical. Many of our obstetrical text-books do not even mention it. The writings of Drs. Collins, Bennet, McClintock, and others of our older authors, I have not had access to.

The causes as given by Churchill and Bedford are portions of retained placenta or membranes, the formation of a firm coagulum which the after-pains are not sufficient to expel, diseases of the cervix or body of the uterus, lacerations, polypus uteri, etc. Churchill mentions "Relaxation of the Uterine Contraction within a Limited Period," but does not define the limit. Bedford speaks of atony of the uterus, not amounting to positive inertia, as a cause. And both authorities mentioned, give from eight to ten hours to thirty days as to limit within which it may occur.

Dr. Paul F. Mundé relates a case that he himself has treated, in which the hemorrhage occurred the sixteenth day after delivery, and the cause assigned by Dr. Mundé in his case was septic endometritis with sloughing of the surface of the endometrium.

If my readers will indulge me, I will give them the history of my case from the time of her confinement. And perhaps some one may be able to point out one of the many flaws in its management to which the hemorrhage may be attributed.

Mrs. R., æt. twenty-five; primipara; well-nourished; native of New York. Delivered June 3, 1884, male child, weight ten pounds. Labor natural, and lasted ten hours. After waiting for pulsation to cease in the cord, it was divided. The uterus contracted well after expulsion of the child. Hemorrhage moderate. I enjoined quiet upon my patient, and superintended the dressing of the child. Twenty minutes after separating the child from the mother, I found the placenta slightly protruding into the vagina; and making gentle compression of the fundus uteri, I was enabled to expel it from the uterus. No force was used, the placenta was entire, and if it is possible to know that the membranes are completely expelled, no portion of them was left in this case. Unless there are special reasons for the removal of the placenta, I always wait until it presents at the os, for my experience has taught me that there is less liability to retention of a part of the membranes; and when the uterus has had the time that nature intended, to gradually contract upon the placenta, the formation of clots is not nearly so apt to occur, and the severity of the after-pains is thereby mitigated. After the placenta was removed, I gave my patient ext. ergot fld., applied bandage, and made her comfortable. After resting an hour, she was sponged off with warm water and Listerine. The vagina gently washed out with warm water, external genitals anointed with vaseline and ol. gaultheria, an antiseptic napkin applied to the vulva, and after administering ergot, I took my leave. (There were no lacerations except the usual tear in the fourchette.)

I visited my patient daily until June 10th, had her napkins changed frequently, her room and bed well aired daily, and upon the third, fifth, seventh, and ninth days I washed out the vagina with tepid water. At the last washing, I found the uterus well contracted, the sphincter vaginæ giving its normal resistance to the introduction of the finger, and the lochia small in amount, and only tinged with blood. No offensiveness pertained to it at any time. Temperature did not rise above 99° F. at any time; passed urine in normal quantities, every six hours. Bowels regular after the first action, which occurred on the fourth day spontaneously. No tenderness nor pain.

I attended to the washings myself, and they were a source of comfort to my patient, as she almost invariably took a short nap following them, and I am satisfied that no fluid entered the uterus at any time. The knowledge that deaths from puerperal fever had recently occurred in our city, made me extremely careful, but not officious. She was allowed to sit up fifteen minutes on the evening of the ninth day, and thirty minutes morning and evening thereafter.

My patient was awakened at 3 a. m., June 16th, by the cries of her baby, and immediately discovered that the bed was very wet, and that she was flowing rapidly. When I reached her a few minutes later, I found her nearly exsanguinated,

pulseless, deaf, and bleeding freely. Examination detected the uterus enlarged, relaxed and flabby, the os dilated until two fingers could be introduced, the vaginal walls offering no resistance to the introduction of the hand, everything corresponding to a recently delivered woman, before contractions had taken place.

Two small clots of recent formation were removed, the uterus was injected with *hot* carbolized water, ice applied externally, and a hypodermic of ergotin given. Administered brandy and spirits ammonia per os, and elevated the hips. Repeated the ergotin in ten minutes. Examining in twenty minutes, I found the uterus beginning to contract, and the hemorrhage lessening, pulse returned, and consciousness; patient "hears running water" only; repeated the hypodermic and brandy, and in thirty minutes the hemorrhage had greatly subsided, the uterus contracting very well. At 5 a. m., I removed some clots that had formed in the vagina, and found the flow had almost ceased. At 6 a. m., the uterus was well contracted, and there was scarcely any hemorrhage, hearing and pulse restored, removed the ice, administered brandy, and ordered tr. nux vomica and fld. ext. ergot every two hours, removed the pillows from beneath the hips, and took my leave.

No further hemorrhage occurred, and the color of the lochia resumed the ordinary hue after the third day; did not become offensive. The temperature rose to 100° the evening following the hemorrhage, and was normal thereafter; moderate tenderness of the fundus uteri existed for two or three days. I continued the ergot and nux vomica until the cessation of the lochia, after which the nux vomica was continued alone. Patient made a very good recovery, and is now (Aug. 11th) visiting her parents in New York.

I am unable to account for the hemorrhage, except upon the grounds of atony of the uterus, with a general relaxation of the muscular tissues; but the sudden occurrence of this atonic condition is rather difficult to account for. The occurrence of such an alarming hemorrhage without wakening the patient, is an interesting point in this case.

It is possible that the crying of the baby was the means of saving the mother's life. When awakened by the hemorrhage, it might have been too late to receive assistance, and I am not sure that the hemorrhage would have wakened her at all.

One other case occurred in this county on the eleventh day, which proved fatal before assistance could be offered.

Is it possible that epidemic influences had anything to do with my case? There were two cases of puerperal fever in the city during the week in which the secondary hemorrhage occurred.

VII. SURGERY.

Operations for Hare-Lip.

The *Annals of Anatomy and Surgery*, Feb'y, 1885, tells us that before the Society of German Scientists and Physicians, Prof. Hagedorn read a paper on the subject of the "Operation for Hare-lip in Small Children," pointing out that in the method hitherto in use, described by König, in the 19th vol. of the *Zeitschrift für Chirurgie*, a weak place exists at the point where the three sutures meet, which often frustrates primary union, and propounding a new method, namely, to make two long incisions, one on either side, through the entire substance of the lip, parallel to the red border, to which he joins, on either side, an oblique cut with the scissors of an upward and lateral direction, running from the median angle of each part of the lip and meeting the first incision on the wider or median side of the fissure, near its angle, but on the narrower and lateral part, at its lateral point, respectively. After the junction the line of suture represents a bayonet form; the lip shows no retraction at the point of adaptation and, all tension being avoided, nothing prevents a union by first intention. Several modifications and adaptations to double fissure were mentioned, and histories of three cases, the youngest representing the age of five days, were given.

Stricture of the Rectum as a Cause of Prolapsus.

The *Lancet*, Jan'y 24, 1885, tells us that in the January issue of the *Revue de Chirurgie* Dr. Eug. Bœckel relates the case of three children brought to him for troublesome prolapsus of the rectum, in whom he found the summit of the protrusion to be formed by a narrowing of the intestine. In each case the dilatation of the stricture was followed by a speedy cure of the prolapse. Dr. Bœckel asserts that if looked for it will be found that the majority of cases of prolapsus recti in young children are caused by congenital strictures of the upper extremity of the rectum. He states, also, that the conical shape of the protrusion and the extreme narrowness of the orifice at its end are the diagnostic features of this form of prolapsus. The treatment recommended is the wearing of a tubular pessary to dilate and hold in place the stricture, while allowing flatus and liquid fecal matter to escape. We are unable to accept altogether these views. If stricture is such a frequent cause of prolapse, it is a remarkable fact that so many cases have been cured by methods of treatment which cannot have removed such a case, and we are by no means satisfied from the account given that Dr. Bœckel's pessaries actually dilated any stricture in the cases he records. The narrow orifice of the protrusion was probably due to the traction upon the part, and to the constriction to which it was exposed in its unnatural position. Further, Dr. Bœckel is certainly in error in attributing a stricture at the junction of the sig-

moid flexure and rectum to a defect in the union of the intestinal and anal portions of the alimentary canal. The anal infolding only forms quite the lower extremity of the gut.

Hints on the Use of Drainage Tubes.

Dr. W. L. GERTZ thus writes in the *Jour. Am. Med. Ass.*, Jan'y 3, 1885: Some months ago we had occasion to evacuate a pelvic abscess, and use a drainage tube as a means of thorough drainage. Not having at hand at the time a regular drainage tube, we constructed one out of a piece of plain (small size) rubber tubing. After being in the opening for several days we desired to replace it by another tube; we attempted to remove it, found that the opening in the tissues through which the tube had passed had contracted so as to hold tightly the tube; and although we made but slight traction, anticipating the possibility of the tube's breaking, to our extreme discomfort and dissatisfaction, we soon realized that our anticipations were realities, a portion of the tube, an inch in length, remaining within the pelvic cavity.

We succeeded in removing it by dilating the opening through which the tube was passed; then introducing a small blunt hook, we succeeded in drawing the piece of tube into position, so that it was easily grasped by a pair of forceps and extracted, much to our satisfaction, and with a vow that in the future we shall select with *caution* our material for drainage tubes.

A hint on the removal of tubes and also upon their introduction may not be out of order here, under circumstances as above described; where the tissues firmly hold the tube, we should adopt the plan of inserting within the tube a dilator of some kind with which to dilate the tissues before we attempt to withdraw the tube.

As a satisfactory method of introducing drainage tubes, we have found that where a trocar and canula were necessary to evacuate the contents of a cyst or an abscess, that by taking the precaution to use a canula a trifle larger than the drainage tube to be used, the latter could be conveniently passed through the canula into position and then the canula withdrawn.

Goitre Successfully Treated.

The *Med. Record*, Jan'y 10, 1885, says Dr. G. W. McCASKEY, of Fort Wayne, Ind., was consulted on July 2, 1884, by a young woman, unmarried, aged twenty-five, on account of a small goitre. It measured three and one-half inches from side to side and from one and one-half to two and one-half inches vertically, being larger on the right side. It was firm and non-cystic.

The treatment consisted of Lugol's solution, gtt. vj., three times per day. From once to twice each week the tumor was injected with tr. iodine, gtt. iv.-vj., the length of time between injections depending upon the persistence of the swelling. About twice each week the galvanic current (twelve cells), with the cathode over the tumor, was used for twenty to thirty minutes.

The result of three months' treatment was to cause the entire disappearance of the enlargement upon the left side, leaving what seemed to be a slight thickening and induration of the tissues on the right side. This thickening had remained up to the date of last examination, some two months after the cessation of active

treatment. The neck was reduced in size from thirteen and one-half to eleven inches.

The patient lost fifteen pounds in weight, about one-seventh her entire weight. When the debility became very marked, Lugol's solution was suspended for a week. This was necessary twice during the treatment. When the treatment was discontinued the patient regained her original weight in less than a month, without any recurrence of the tumor.

The troublesome dysphonia, which led the patient to consult me, disappeared in about one month after the commencement of treatment. The pressure seemed to be removed from the larynx before any obvious diminution had occurred in the bulk of the tumor.

A Case of Acute Purulent Synovitis in a Child of Two Months.

Dr. H. BERLIN thus writes in the *Southern Practitioner*, Feb'y, 1885: In July last my partner, Dr. Barkley, was called to see a child, æt. two months, well nourished, and health, since birth, unexceptionable; no history of syphilis or of a scrofulous taint in either parent. The mother said the child was fretful, and she said also that it cried, as if in pain, when the left leg was touched. Dr. B. found the knee somewhat swollen; tender on pressure; leg semi-flexed; temperature a little above normal; no signs of an external injury could be detected, and parents could throw no light on the subject. Chloral hydrate was prescribed and the knee ordered to be painted with elastic collodion and iodoform. At the expiration of three days we saw the patient together. Found the swelling much increased; knee hot; patella floating; marked fluctuation; temperature 103; leg flexed at a right angle. We made a free incision on the outer aspect of the knee, a little above the upper half of patella, and evacuated a large quantity of serum and pus. An elastic catheter was then introduced, and the cavity thoroughly washed out with a bichloride solution. Then a drainage tube was put in, absorbent cotton applied and limb bandaged. For eight days the cavity was washed out through the drainage tube at the expiration of which time suppuration ceased, tube was removed, and wound closed by a piece of gum plaster, and in a few days was completely healed up. The motion of the joint is now perfect, and no difference between it and its fellow can be detected. The child's general condition is splendid.

Two Cases of Traumatic Abscess of the Liver.

Dr. D. JAMISON reports the following cases in the *New Orleans Med. and Surg. Jour.*, Jan'y, 1885:

An impromptu duel about a woman took place between two negro preachers. R. H. was stabbed in the right side, just over the liver. For four or five days he appeared to be doing well, when he developed peritonitis. In two weeks we considered him cured of the peritonitis and out of danger. On October 29th he began to hiccough, and although there was only a rise of two degrees in temperature, he became very weak and died November 20th. His symptoms were a deep-seated penetrating tumor in the liver; no abdominal tenderness; no pain, except on pressure. The abscess was not evacuated, because it was so deeply situated, and apparently no adhesions had taken place.

NECROPSY.—There is all the evidence of diffuse peritonitis. The liver contains a large abscess, which is not nearly so deeply seated as it appeared before death.

E. B., aged thirty-two, was admitted August 14th. One week before admission he was kicked in the right side, and the eighth rib fractured. His temperature was 100° Fah., respiration 96, tongue coated, no appetite, expression anxious, and complains of pain in the bowels. August 21st—he is much relieved. August 30th—he now has irregular paroxysms, marked by a sudden chill, followed by high fever; temperature 105° Fah., light tenderness over the liver, but no tumor can be detected. On September 5th the liver was carefully explored, but no pus was detected. The symptoms all point to septicæmia, and that diagnosis is accordingly recorded. The irregular paroxysms continued until September 14th, when he died. Every effort was made to relieve his condition. The liver was repeatedly explored, but no pus was ever found.

The liver is adherent to the diaphragm. A portion of the left lobe, six inches square, is elevated, indurated, and has undergone fatty degeneration. No pus in this mass. On section there is no abscess, but pus oozes from the gall ducts. The blood vessels are healthy and can be easily separated from the substances of the liver.

Extensive Keloid, Producing Great Disfigurement of the Face and Neck.

Dr. THOMAS G. MORTON publishes the following in *Med. Times*, Jan'y 24, 1885: This colored man, 32 years of age, was engaged in the working of a cotton-press eighteen months ago, when he was so unfortunate as to be severely burned in his hands and face and upper portion of his breast and shoulders by an explosion.



The burns healed well, but, as you see, the cicatrices have taken on keloid growth, which has involved in a mass of new growth the neck, both auricles, and the sides of his face, producing great disfigurement, interfering with movement of the jaw and with hearing. We have applied collodion to the growth, and it has apparently led to some contraction, but probably no more than any dressing would

which exercised pressure. We would probably have had just as good results from an ordinary bandage.

I propose this morning to amputate a portion of this tissue, in the hope that a healthy scar may be obtained, such as you see in his hands. I will remove the mass surrounding the right side of the face, as the growth here interferes with his hearing. I can save part of the pinna of the ear.

[This operation was performed without much bleeding. Two weeks later the wound had nearly closed, and the patient was willing to have the other ear unoperated upon. This was performed Saturday, December 20. The growth, which covered both ears, the sides of the face, and the neck, was successfully excised. —REP.]

Pelliosis Rheumatica.

In the *Jour. Cut. and Ven. Diseases*, Jan'y, 1885, Dr. ETIENNE C. VIDAL says: June 12, I was consulted by H. B., male, twenty-five years old, native of Germany, for an eruption situated on the lower extremities, accompanied by œdema of the ankles, and a "sticking, cutting pain" in these articulations. The right ankle was considerably swollen and covered with a confluent efflorescence of a purple hue. Above this latter, and extending to the knee, were smaller patches varying in size from that of a ten-cent piece to that of a silver dollar. In addition to these were maculæ, round in form, and the size of a lentil. Their color, a brighter red than the above-described efflorescence, persisted under finger pressure. On the left ankle, the color of the eruption was brighter than that of the right. It assumed sharply defined forms, leaving the anterior aspect of the articulation entirely free. The inferior portion of the left leg as high as the knee was covered with an eruption similar to that on the right. There was less pain and œdema in the left ankle. The dorsal surface and the sides of both feet presented the same variety of maculæ; they likewise existed on the back of the hands. A few very indistinct spots of a pale-yellow color appeared on the palms of the hands. The patient suffered from fever and headache; he had no appetite, was weak, and presented a general anæmic condition. Walking was exceedingly painful, and increased the swelling.

The patient informed me that, three evenings before his visit to me, he had been out drinking. The following morning, he experienced pain in the ankles, and found they were swollen. During the day the spots appeared on the legs, and in the evening fever set in. The second day the spots were seen on the hands and feet. When I saw him at the consultation, on the third day, the efflorescence had partially disappeared, there was less œdema, he had no fever, no headache, appetite good, but the urine was colored. On the third day after I saw him, the eruption disappeared; the swelling, a day later. There was no relapse, the disease having run a course of ten to eleven days.

The horizontal position, tinct. ferri chlor., and cold-water dressings constituted the treatment.

Successful Reduction of Hip-Joint Dislocation after Twelve Weeks.

Drs. J. H. and L. I. HALL report the following case in the *St. Louis Courier of Medicine*, Jan'y, 1885:

Little Sadie P., aged nine years, was brought to our office early in October, with the following history :

On July 17 preceding, while playing with other children in the orchard near the house, she had fallen from an apple tree. After some hours' delay a physician was secured, who readily diagnosed the case as one of dislocation of the hip-joint, and proceeded, under chloroform, to reduce the dislocation. According to statements of those present, the operation was successfully performed without serious difficulty. Accepting this information as correct, the luxation must have recurred spontaneously, almost at once, as from the positive statements of the parents and others the present deformity has existed from that time. The dislocation was the usual one, upon the dorsum of the ilium, producing the marked deformity of that injury. More than eleven weeks had already elapsed since the accident, but the parents being quite anxious that something should be done, an early day was appointed on which to visit the house, twenty miles distant, and undertake the operation. Accordingly, on Wednesday, October 8, 1884, with many misgivings as to the result, we repaired to the house, and early the following morning proceeded with the operation.

Without entering into details, the patient was thoroughly etherized and by patient and persistent effort the head of the femur was finally safely landed in the acetabulum. Save the use of pulleys and other mechanical appliances, the usual methods of the operation, extension, flexion, rotation, etc., were in turn resorted to.

The after-treatment consisted in the use of extension, applied as in morbus coxarius, the patient being confined to the bed for three weeks.

On last Monday, more than four weeks after the operation, the little girl was found going about the house, using crutches as a precaution, but having quite free use of the limb, admitting of flexion to a right angle and taking the weight of the body readily, only a slight halt being observed in the gait.

The books, so far as I have examined, give seventy-six days as the limit in practice of successful reduction of this dislocation. This operation was eighty-four days after the injury, and suggests the advisability of an attempt at the operation at almost any time, at least within that limit.

Treatment of Cold Abscesses.

Dr. AP MORGAN VANCE thus writes in the *Louisville Med. News*, February 14, 1885:

My object in reporting these cases is to show how much can be done by the proper use of the aspirator in getting rid of collections of pus in the cold condition wherever found, and especially collections in and about the abdominal cavity.

Case 1. Mr. C., aged twenty-six, was referred to me in the fall of 1882, by Dr. J. W. Holland. His history was strumous, and he had been suffering for several months with uncertain pains about the right hip-joint and anterior part of thigh, which were especially severe in walking. The patient was on crutches, and while standing the thigh was flexed and slightly abducted, with three-quarter-inch atrophy ; while in the recumbent position no motion was retarded.

Some tenderness along the anterior crural nerve was found on this side. His

general condition was good, but he stated that he had had gonorrhea six years before, with a suppurating bubo on the right side. In this situation a small scar was found.

While palpating over this with a view to finding a cause for the nerve-trunk tenderness, I discovered a tumor the size of a turkey's egg in the right iliac fossa, the subject being so fat that it was found only by deep pressure.

The next day Dr. Geo. W. Ryan, of Cincinnati, saw the case with Dr. Holland and myself. By exclusion a diagnosis of cold abscess was made, notwithstanding the very robust condition of the patient. I aspirated, drawing off nearly a pint of sero-pus.

Four days after this the patient developed intense malarial intermittent fever, which was relieved by large doses of quinine. In ten days the aspiration was repeated, at which time rather less pus was drawn off than at the first attempt. The sac was washed out with a ten-per-cent. solution of Listerine, two needles being primarily introduced, the second acting as an outlet for the injected solution. Rapid improvement of all symptoms ensued, and within a month the man was able to go a bird-shooting. I have seen him frequently in the past year; he is still well.

Case 2. *Pott's Disease, Mid. Dorsal; large collection of pus in right psoas muscle; repeated aspiration; cure.* Willie Riley, aged nine, had been under my care since early part of 1881. He was referred to me by Dr. Geo. W. Griffiths. Child progressed well as to the spinal trouble, until the fall of 1883, two and a half years, with no increase of deformity.

I had not seen him for six months, when he walked into my office evidently in great physical distress. An examination revealed the right thigh flexed, abdomen much distended, the right iliac fossa and abdomen filled with pus. The child was greatly reduced in flesh. The aspirator needle was immediately introduced just inside the anterior-superior spinous process of the ilium, and nearly two quarts of pus were drawn off.

The boy was put on his back and ordered the best of food, frequent milk punches, and extract of malt and iron. Two weeks later an aspiration removed over a quart of pus. Six aspirations at two weeks' intervals were performed in this case, the child improving greatly in health, and growing very fat and rosy. The quantity of pus obtained decreased at each aspiration, until only a half gill of serum came away, the last introduction of the needle failing to find fluid, though by deep pressure a small lump could be felt at the site of the abscess. This case has since had no refilling or other trouble.

Case 3. *Abscess in the right iliac fossa (in a boy) cured by two aspirations.* Frank N., aged twelve, was referred to me by Dr. Turner Anderson, in the summer of 1884, with the following history: Three months before I saw him he had come to Dr. A. complaining of pain accompanying the latter part of the act of micturition, at times passing a little blood and mucus. Under treatment he was soon apparently well, and was not heard of by Dr. Anderson till the day before the case was turned over to me. At this time he was much emaciated. He was irritable, had no appetite, and slept badly. He walked with difficulty, because of the marked flexion of the thigh on the right side, extension being resisted at a point past 90°. Further flexion was easily made, and adduction and abduction were present.

A large collection of fluid could be made out without difficulty, extending down into the pelvis and high up in the loin, the patient having fever which increased in the evening. I aspirated with a needle of the ordinary size, just inside the anterior-superior spinous process of the ilium as in case 2, and half a pint of pus was evacuated, when it became so thick that it would not pass through the needle. On the next day a trocar and cannula were introduced, so arranged that the tube of the aspirator could be attached, and a quart of thick, tough, ropy pus was taken away, followed by a little blood upon increased suction.

Ten days after this the procedure was repeated, in which I was assisted by Dr. McGuire, and a little less than a quart of the same sort of pus was drawn off. From the first visit milk punch, *ad lib.*, was ordered with tinct. ferri chlor. in ten-drop doses. After the first evacuation the boy improved rapidly, and in six weeks was well, continuing so till this time.

In conclusion I will simply say that, judging from my own experience, cases 2 and 3 would have proved fatal if the abscesses had been opened by the knife. Case 1 would have recovered treated by either method. The aspirator, of course, did the work in a much more comfortable and cleanly way, requiring less time. We all know how long these abscesses often are in healing when they do not drain the patient to death.

On the Dangers of Modern Operative Proceedings for the Radical Cure of Hernia.

Dr. C. B. KEETLEY thus writes in *The Annals of Anatomy and Surgery*, February, 1885 :

It seems, as it were, only yesterday that operations for radical cure of hernia were regarded as almost mysterious proceedings. With their invaginations of skin and intricate manipulations of loops of wire, descriptions of them read like those of an Indian puzzle. Partly for this reason, partly because of a belief that the so-called radical "cure" was, in a large proportion of instances, neither permanent nor trustworthy, and partly because of the good old surgical rule, wise enough formerly and not entirely foolish to-day, never to cut or wound where a reasonably good alternative offered, operations for radical cure of hernia used to be practiced only by the very few, and regarded with suspicion and dislike by the many.

Several circumstances have altered this position. Antisepticism has banished from the minds of most surgeons the old, just and terrible fear of erysipelas and the other traumatic infective diseases, and with the departure of this fear has gone the dread of cutting and wounding *per se*. The progress of abdominal surgery has brought about, with reference to the peritoneum, that familiarity which breeds contempt. Lastly, it has been discovered that the sac plays a most important part in the continuance of the hernia; whereas opinion formerly attributed everything to the patency of the rings, or to that combined with a relaxed state of the mesentery or omentum.

Thus, in the short space of two or three years, a number of surgeons in all parts of the world have commenced to put aside their habit of leaving ruptures to the truss-makers, and to operate frequently by the method of excision of the sac and ligature of its neck.

Quite enough experience has accumulated to show that this form of operation has now established itself permanently, or, at all events, to last in professional favor until a better shall have supplanted it.

But we greatly doubt whether the rapidly-accumulating literature of the subject conveys to the general reader anything like a just idea of the real and not inconsiderable dangers of the fashionable operation for the radical cure of hernia. We believe that the great majority of operators of any extensive experience in this department of surgery have met with some unpleasant, dangerous, locally injurious, or even fatal accident in connection with it. Some are perfectly frank, some devote columns to their success, and suggest rather than describe their misfortunes by a sentence or a phrase. Some, we have good reason to believe, do a great deal of mischief without being entirely aware of it themselves, especially to the cord and testicle. Numbers of cases, although they have done well in the end, have only done so after exposure to the various dangers of prolonged suppuration.

We hope we shall not be understood to be attacking the operation itself. On the contrary, we have already signified that we regard it as one firmly established on a scientific and practical basis. But we believe that a word or two of warning to those about to undertake it will not be out of place, or, rather, is really needed.

Besides the dangers of a general surgical kind, such as that of a vitally important ligature giving way, or of septic infection, there are certain particular troubles and dangers of which the most constant and serious depend on the relations of the cord to the sac when the hernia is inguinal.

In many cases of congenital inguinal hernia, such difficulties are very great. It is, doubtless, easy enough when the patient is a young child, and the surgeon has done the operation several times before, to strip the vas deferens and sac apart. But the remaining constituents of the cord are, upon the whole, more likely to go with the sac than with the vas deferens, to which they more correctly belong. The natural consequence is trouble with the testicle, perhaps orchitis, perhaps suppuration, or even gangrene. And every proceeding which sometimes leads to these will sometimes lead a little further, that is to say, to a fatal result. So great are these dangers that more than one surgeon recommends in certain unusually troublesome cases the simplification of the operation by taking away testicle, cord and sac altogether. Doubtless there are testicles which are useless to their possessors, just as there certainly are testicles which are much worse than useless; but it becomes little better than a matter of mere guessing when the surgeon has to ask himself what is the value of a given gland. And it is easy to see how, in a moment of great embarrassment, the operator might fail to give the testicle he was dealing with the benefit of the doubt. Indeed, it is particularly easy to estimate lightly the importance of another man's testicle. It is not merely by actual castration that the patient is liable to suffer permanently. Can there be a doubt but that the orchitis which sometimes occurs may be occasionally attended by permanent damage? This consideration is greatly intensified in importance when a double operation is done for inguinal hernia on both sides.

The remarks we have made have not referred to either Spanton's operation or

to the operations by injection of fluids into the canal. But the collected experience of the former is comparatively small. It appears to frequently cause suppuration, and to be adapted only to certain classes of cases. And with regard to operations by injection, if practiced subcutaneously, as they are directed to be by their advocates, is it not simply certain that the fluids would not only often not reach the right place, but sometimes even get to very much the wrong place indeed? If what Warren says about it be correct, the operation by injection requires an amount of manipulative skill and delicate tact such as an ordinary surgeon would be too modest to credit himself with the possession of.

To sum up, our position is this: A new field of practical surgery has been opened up, the exploration of which must yield rich results; but in it there are many pitfalls, the existence of which has scarcely been sufficiently emphasized and mapped out by enthusiastic pioneers. Let every surgeon beware of them.

Chronic Dislocations.

The following remarks by Dr. W. F. WESTMORELAND are published in the *Atlanta Med. and Surg. Jour.*, February, 1885:

The next case that I present, gentlemen, is one of peculiar interest to me. The patient is a handsome young lady from the upper part of this State, who was so unfortunate as to have both bones of the forearm dislocated some ten weeks since. The dislocation, as you perceive, has never been reduced. You see the olecranon process prominent on the posterior aspect of the arm, about two inches above the condyles. This state of things has existed since the injury. There was an effort made at reduction by the physician who attended her; but the reduction was not accomplished. The arm was placed on a straight splint, and was kept in this position four or five weeks. At the end of this time it was found that all movement of the elbow joint was gone. You will perceive that she has no motion whatever of the joint. The arm is almost entirely useless. She says that rather than go through life with the limb in its present condition, she would have it amputated.

It is needless, gentlemen, for me to tell you that this young lady has been badly treated. This injury, that could and ought to have been reduced in a few minutes at the time received, will require a considerable length of time to do so now, if indeed we are so fortunate as to do so at all. These cases of old or neglected dislocations are not easily reduced. Sometimes serious consequences follow attempts at reduction. The danger lies in exerting too much force in your efforts at reduction: an important blood-vessel may be ruptured; a bone may be broken; extensive inflammation may follow; suppuration may be excited in the parts around the joint, resulting in pyemia and death.

It is not unfrequently the case, gentlemen, that we find a dislocation of this character that is impossible to reduce in two or three weeks after injury. There are other dislocations, however, that are more easily reduced after a few weeks than those of the elbow. There are examples, for instance, of dislocations of the hip-joint of three to six months standing having been successfully reduced.

The signs of this most common form of dislocation of the elbow are lost, in a great measure, by the treatment that has been adopted. In recent dislocations

of this character you will find the limb semi-flexed. This you do not see in this case, since the arm was placed on a straight splint and kept so for four or five weeks. You do find the prominence of the condyles in front, and the olecranon on the posterior aspect. The obstructions in the way of a reduction in this case are the adhesions that have been formed and the new tissue that may have been deposited in the sigmoid notch, as well as as that deposited on the trochlear surface of the humerus.

The first thing to be done is to get the patient thoroughly under the influence of ether; then by extension and counter-extension we hope to break up these adhesions and reduce the dislocation. This work cannot be done hurriedly, it must be done gradually; the danger to the soft parts is too great to allow of rapid stretching of the muscles. This extension, you see, is made with a compound pulley, one end attached to a rope that has been secured to the wall, while the other is attached to a loop formed by a broad band that is applied around the wrist. The counter-extension is made from the arm, just above the elbow. While the assistant pulls on the pulley, you notice I keep my hands on the displaced bones and I find that they are gradually giving way to the great force you notice we are exerting. Now, with all force taken off, you see that the forearm can easily be carried almost to right angles with the arm. It will be impossible to reduce the deformity so long as we make extension in the direction that we are now doing. Our object now is to get the adhesions all well broken up, and then we will make efforts at reduction proper. We have now brought the bones down on a line with the end of the arm-bone. The bed will now be changed in order that we may get force in a different direction. You notice we attach the pulley now to a towel which we place near the joint; the hand is carried over the body. We now direct our force to lifting the coronoid process out of the olecranon fossa, and with a slight manipulation we place the bones in proper place. There is, as I have already said, new tissue formed in the sigmoid notch and on the articular surface of the bones, but this will no doubt soon be displaced, and the patient will have a serviceable arm. The only dressing we apply now is adhesive plaster to keep the arm in the flexed condition you now see it in. Our treatment will consist in the application of cooling lotions, and the treatment of such symptoms as may show themselves.

Gentlemen, I hope I may never be called on to treat one of these neglected dislocations as the result of your treatment; if, however, I should, it would give me pleasure to testify against you in the courts in a case of malpractice. I cannot urge you too greatly to attend at once to every dislocation. Delay is dangerous.

Abscess of the Liver.

Dr. WM. JOHNSTONE FYFFE discusses the diagnosis of hepatic abscess in the *Bristol Medico-Chirurgical Journal*, December, 1884, and thus concludes:

What, then, are the signs and symptoms most to be relied on in forming a diagnosis of hepatic abscess? In answering this question I would exclude those cases of acute hepatitis resulting in abscess, rarely seen out of the tropics. In

NOTE.—Now, eight weeks after operation, patient has every movement of elbow joint, and has entirely recovered.—REPORTER.

such cases the diagnosis is comparatively easy. The pain, high temperature, rapid pulse, hepatic tenderness, frequent vomiting, and successive rigors, all point to the formation of abscess. The condition of things is rarely met with in Indian residents returned to England. The acute symptoms are seldom observed. If they have existed they have passed away. The abscess, if there be one, may have already formed, and all symptoms of inflammatory action may have ceased.

In those cases which present a great similarity to fever of an intermittent type, careful observations of temperature may be of material assistance.

When hepatic abscess is accompanied by frequent rigors, the temperature rarely falls to the normal standard during the intermission, as it does in ague. The fever paroxysms are also of shorter duration, are more irregular in their rhythm, and are seldom influenced by the administration of quinine.

Hepatic pain, although present in the majority, at least, of acute cases, is not a constant symptom in those of a more chronic character, nor is it very severe.* The liver is not a very sensitive organ; and, unless the coverings of the organ be involved, the pain experienced by the patient is seldom commensurate with the amount of local mischief. Tenderness on pressure is, however, a sign which I have hardly ever observed to be absent in hepatic abscess; but the amount of tenderness depends mainly upon the position in which the abscess is situated. The cases in which tenderness is most marked, are those where the abscess is situated on the concave surface of the gland.

Increase of the area of hepatic dulness is an important sign in diagnosis of liver abscess, but we must look for it in the upper margin. The lower margin generally remains within its normal limits, unless the abscess be of very large size. Auscultation, I need not say, is of great importance in enabling us to determine the relation between the lung and upper margin of the liver.

Enlargement of the liver, by which I mean general swelling of the organ in all directions, is not of frequent occurrence in suppurative inflammation. This fact has been specially noted by Morehead, who explains it upon the hypothesis that the nutrient vessels, namely, the capillaries of the hepatic artery, are those most engaged in inflammation; that their capacity is much smaller than those of the portal vein; and that this in a great measure accounts for the fact that the bulk of the organ is little increased in inflammation compared with congestion, a deranged condition in which the large portal capillaries are directly implicated. And certainly this view, if correct, tends to explain another fact, that the function of secretion is seldom interfered with in cases either of acute or chronic suppurative inflammation of the liver. I do not remember ever to have seen jaundice occurring in the course of an hepatic abscess. Out of the 318 cases Morehead only observed jaundice in five; its presence or absence is, therefore, of no account in determining the diagnosis. There is, however, a dusky condition of the skin, especially of the face, neck, and upper part of the trunk, almost constantly present in these cases. Whether it be the result of the circulation of bile in the tissues, or from pigmentation following long exposure to malarial influences, I am not prepared to say.

Uncontrollable vomiting occurring in a patient with a tropical history is a

*The sensation is one more of discomfort and fulness rather than fixed pain.

symptom possessing considerable diagnostic value. This has been pointed out forcibly by my late colleague in the Army Medical School, Professor Maclean, in an article published in the *British Medical Journal*, in August, 1874. Dr. Maclean there cites several cases showing the significance of this symptom.

Sir Joseph Fayrer, the present physician to the Council of India, in commenting on Dr. Maclean's paper, draws attention to the insidious manner in which the liver passes into a condition of suppuration, not only in the cases of persons residing in India, but also in those who have left the country, and refers to the point, which has been borne out by his experience, that vomiting, as a symptom of liver-abscess, will depend much upon the position and size of the abscess and upon the pressure it may exercise on adjacent organs, or to the amount of irritation it may excite in the vagus nerve. "The two cases I have already cited bear out this observation."

There are some cases of hepatic abscess of insidious origin, however, where there are no symptoms, and where the first indication that an abscess has existed may be the evacuation of a large quantity of purulent matter by the bowels.

"I would say, in conclusion, that if in the cases of persons formerly resident in India who have returned to this country, either with or without any history of previous hepatic or intestinal derangement, we should find symptoms of malaise, more or less pyrexia, evening chills followed by perspiration not controllable by quinine, a malarial aspect, dingy conjunctivæ, vomiting difficult to subdue, with irregularity of the bowels, we may have grave suspicions of hepatic abscess; and if, in addition to these, there should be pain and discomfort in the region of the liver, sympathetic pain in the right shoulder, cough, dyspnoea, tenderness on pressure, tension of the right rectus muscle, and any prominence of the right side, our suspicion may be reduced almost to certainty. In such circumstances an exploratory puncture removes all doubt."

Charcot's Joint Disease.

Dr. C. L. COTTON reports the following case in the *Canada Med. and Surg. Jour.*, January, 1885:

H. G., aged 42, a native of England, engaged in the dry goods business in New York during 14 years. He has a good family history, no case of nervous disease that he can discover. He had convulsions when a child, but enjoyed generally good health until 1876 when he noticed strabismus of both eyes. He had one eye operated on in Glasgow and the second in Paris, since which time he has had no further trouble with his eyes. In looking back he can notice some failure in his gait in 1879, was soon followed by neuralgic pains in his legs. These began quite suddenly. He can remember distinctly the place and hour when he had the first attack. He describes them as the usual pains of locomotor ataxia are described—as lightning-like pains. These have continued until the present, each attack lasting two or three days, and then an intermission of two or three weeks. He also had a cord-like feeling about his waist and a weakness in the knees.

He first came under my notice in December, 1879, when he presented very typical symptoms of locomotor ataxia. His walk was quite ataxic; could not stand with his eyes closed. Patellar reflex absent; complained severely of the feeling

of girdle pains; some loss of power over the sphincters, and diminished cutaneous sensibility in the legs. He continued in very much the same condition, but with a gradual failure of co-ordination, until July, 1883, when one day after using a saw in such a manner that his right leg was put into a swinging motion over the edge of a box, the under surface of the thigh coming in contact with the box, he noticed immediately afterwards his knee very much swollen, and during the day the leg, foot and toes were involved in the swelling. There was a slight purple discoloration on the under surface of the thigh. My attention was called to it about ten days later; there having been no pain about it from the first, it had been looked upon as a simple sprain. I found the knee and leg as far as the ankle much swollen, the joint full of fluid and crackling on pressure. It had the appearance of a joint undergoing rapid disorganization. His present condition one year since the knee was first affected is thus described. The joint is enlarged; the lower end of the femur appearing to be much enlarged. There are no apparent bony outgrowths. Both bones of the leg are dislocated outwards, though they can be readily replaced, and in doing so give rise to a sound as if the ends of the bones were quite worn away. There is no fluid in the joint, no crackling feeling present. The veins are much enlarged over the knee. Both legs are much wasted; patellar and plantar reflexes absent; cutaneous sensation entirely absent in the feet, legs, and lower half of the trunk. He can support part of his weight on the diseased knee, but is afraid to do so; consequently he does not attempt to walk, but gets about comfortably in a wheeled chair. Appetite good. Digestion sometimes at fault, but generally fair. Sexual power lost during the last twelve months. The sphincters are weakened. At times he can control his bowels and bladder; at other times he finds it impossible to do so. Has never had gastric crises, and never felt any pain in the affected knee. Girdle pains have disappeared. In reference to the loss of sensation, it is curious to note that he has a large corn on one foot, which often causes him severe pain. He complains of much numbness in his fingers.

The question of the relationship of joint affections, occurring during the course of locomotor ataxia with the especial lesion of the spine, has been very freely discussed during the last few months, giving rise to papers at the clinical and pathological societies of London. Charcot, whose name has been associated with this disease, in his earlier observations attributed it to the anterior cornua of the spinal cord becoming involved in the diseased process. But further post mortems showed that the disease could be present without disease of the anterior cornua being demonstrated. Dr. Buzzard is strongly inclined to the opinion that the pathological centre is to be found in the medulla oblongata, and brings forward as evidence the frequent presence of laryngeal, gastric and intestinal affection (more than 50 per cent.), associated with bone joint troubles. Sclerosis attacking the vagus centre is, in short, his pathology. Thus far there has been no discovery of a joint centre in the nervous system, and it would seem that, with the close pathological study that has been given to "centres," if such a centre existed, the question would have been set at rest before this. Charcot depends chiefly on the clinical features and pathological changes in his assumption of this being a distinct specific arthropathy. Another view of the pathology of these cases is that they are an ordinary arthritis modified by the condi-

tions of the patient. In support of this view are the very similar joint changes noticed after injuries to nerves. Weir Mitchell, Sir Wm. Gull, Ziemssen, and Charcot, have all noticed cases of arthritis due to nerve lesions, and it is a question whether rheumatism has its origin in the nervous system. These lesions are usually ascribed to the inhibition of the trophic influence of certain nerves. The third view of the pathology of these joint cases is that they are ordinary rheumatic or other forms of arthritis occurring in ataxic patients independently of their nervous disease. My experience of these cases being limited to the one under discussion, I must leave the question of pathology to others who have had more experience. But I must observe that the course of this case has been different from any joint affection that has come under my notice. The entire absence of pain, the rapid disorganization of the joint, with the history of a slight injury would incline me to the view, that, firstly, there must have been a predisposition to joint affection, otherwise so slight an injury could not have caused such a serious effect; and secondly, that the trophic nerves, and I think it is generally admitted that certain nerves have trophic influence, must have become seriously impaired in their function. If these joint affections occurring in locomotor ataxia are not specific arthropathies, and I do not think that this has yet been proved to a certainty, yet there is no question in my mind that they are strongly modified by the diseased nerve influence.

Practical Suggestions in Amputations in Cases of Railway Injuries.

Dr. C. B. STEMEN thus writes in the *Fort Wayne Journal of Med. Sci.*, January, 1885:

The question is often asked whether there is any difference in making an amputation in a case where the limb was injured by the heavy machinery of the railway, or when it was necessary to remove it in consequence of disease? In reply to this question we make the following suggestions:

We have made during the last eight years more than one hundred amputations, including in that number many of a minor character, such as fingers, toes, hands and feet, as well as quite a number known as capital operations, including the thigh and the upper third of the femur, and several cases where amputations were made near the shoulder joint, all of the cases being injured on the railroads and by heavy machinery. We have made but few amputations in consequence of disease, not more than fifteen or twenty cases in the same length of time, but enough to know that there is quite a difference in the nature of the two classes of cases; the first being far more serious and dangerous. The removal of a diseased limb where the patient has been *bed-ridden* for months or years and where the general system is reduced, the great suffering causing a nervousness and general prostration, with anæmia and emaciation, so that it appears almost hopeless; yet it has been my experience that such cases generally make good recoveries—as one patient expressed it, “commenced improving as soon as the knife stuck me.”

In the work on surgery by Dr. Goss, we find that he gives the per cent. of fatal cases where amputations were made for disease and injuries, and only in the former the per cent. is higher from diseases than from injury. In all other

authors the per cent. is much higher where made on account of injury. We had no intention of discussing this part of the subject, and will not pursue it any further; but will speak of railway injuries necessitating amputation.

"What is the first thing to be done, and how are we to do it?" is a question of great importance. When called to a case, and we find a limb so severely injured as to demand amputation, and that reaction is being established, we at once proceed to make the operation. We shall not enter into the minutæ or detail as to the method of procedure, as we are speaking to surgeons of experience and not to a class of medical students. After having placed the patient on the operating table, or even before, we frequently administer a small quantity of alcoholic stimulants, or if at hand would give *ammonia*, and we prefer the aromatic spirits of ammonia. We also give hypodermically from one-quarter to one-half grain morphia and one-sixtieth of a grain atropia; especially, if the patient should be suffering much pain and being very restless. We then have all the clothing changed; we have this done before the operation. After this is accomplished, we give the ether, and we use only "Squibb's Stronger Ether for Anæsthetic Purposes," and where the pulse has been weak and frequent, it will, as a rule, become slower and increased in volume under the influence of the ether. As soon as the patient is under the influence of the anæsthetic, we apply the *Esmarch Bandage*. We know that many good surgeons do not employ this bandage, and in fact regard it as dangerous, yet we have employed it since 1874, and so far have had only the very best results; in fact, it has given us complete and entire satisfaction, and we would not like to amputate without it. We believe that we have saved the lives of patients by employing it where there had been a great loss of blood before we saw them, by employing this bandage and forcing the blood in the limb into the general circulation and holding it there. We have thus given our patient the best stimulant and most substantial nourishment possible for him to have *his own blood*.

My old friend, W. W. Dawson, M. D., Professor of Surgery in the Medical College of Ohio, at Cincinnati, stated that he had a patient in whom he had been trying to improve digestion, and by this means give him some strength before making the amputation, but failed, when it occurred to him that to use the Esmarch bandage and force the blood out of the limb to be removed into the body that this would improve his patient, which he did, stating that it was the best breakfast he had taken for a long time.

We must repeat what we stated before, that we have never seen any bad results follow the use of this bandage. After we have the tourniquet properly applied and the bandage removed, we make the amputation and are in the habit of making the flap operation, but always go far enough from the injured tissue so that we are certain that we have healthy muscle and integument for the stump, and by this means avoid sloughing. Immediately after the removal of the limb, we look for the arteries, and if we can find them, ligate them; should we not be able to find the arteries we will loosen the rubber tube or bandage and allow the arteries to bleed, so that we may be enabled to see their location and grab them with the forceps and tie them.

We employ hot water, sponging the flaps with it, and have it as hot as we can bear, and sometimes, if there is much venous and capillary hemorrhage, we use it

quite hot. We should have stated that as soon as the arteries are ligated we remove the rubber bandage, as this will frequently lessen and sometimes arrest the venous and capillary bleeding. Not until all bleeding and oozing is stopped do we dry the stump or bring the flaps together; and before we do this we place a drainage-tube into the stump. We do not use the suture tube, but one with many small holes cut into and then placed in the stump, and the flaps brought together. We may be asked whether we do not employ any antiseptic? We generally employ a weak solution of carbolic acid about five per cent.; we have in a few cases employed the corrosive sublimate solution which is now so much used in the hospitals of the East, and we have had good results following its use. We use the silk suture, bringing the flaps together, sometimes with strips of adhesive plaster to assist in holding them, and we have thought that good strong adhesive strips applied over the end of the stump and extending considerable distance up the limb would prevent the spasmodic contractions of the muscles which sometimes follow amputations, and which are so very annoying and painful to our patients. We always allow the drainage tube to extend from three to five inches on either side of the wound, and do not include it in the bandage, so that with the use of a small syringe the wound can be cleansed and washed out either with the carbolic acid or corrosive sublimate solution every few hours, and this, without the removal of the bandage. In dressing the stump, we generally employ absorbent cotton or lint with the antiseptic solution and then a roller bandage. This dressing we allow to remain for three and sometimes six or seven days before removing it, but we wash the stump through the drainage tube. Should the stump become offensive, or the patient have much pain, we would remove the dressing and examine the stump carefully, and if we found inflammation we would remove the sutures at once and apply a good warm poultice or compress. We generally employ *linseed meal*, and this we would continue until all inflammation had subsided, and the stump was healing. We believe in warm poultices in all cases of inflammation.

We have thus briefly outlined or given a few practical suggestions on amputations and the treatment which, in our hands, has been the most successful. We did not write this paper because we expected to teach the surgeons anything new, but for the purpose of giving our experience, and hoping that the paper would at least bring out some discussion on this subject which would be of value to all.

On a Peculiar Ringed Affection of the Prepuce and Glans.

Dr. R. W. TAYLOR thus writes in the *Archives of Medicine*, December, 1884: The three cases which follow illustrate a peculiar and interesting affection which has not heretofore been described:

Case 1. In January, 1874, an eminent practitioner of New York consulted me regarding an affection of the penis which caused him much uneasiness of mind. He was a large, portly man, thirty-eight years of age, having enjoyed perfect health, with the exception of occasional attacks of migraine. His family medical history was excellent, and he himself had led a prudent life. Some few weeks before he consulted me he felt slight pricking and even painful sensations in the penis toward the glans. As he walked, the movement of the organ or the

pressure of the clothes caused slight uneasiness. Very soon he noticed certain peculiar scaling rings on the prepuce and glans, near the insertion of the frenum. When he came to me, the following appearances were noted: On retraction of the prepuce, chiefly on the left but also on the right side, there were in all about six scaling rings. These efflorescences were of a diameter of from one-quarter to one-third of an inch, and were very slightly reddened, covered with a thin, quite adherent layer of epidermis, and in width were about one-third of one line. The redness, slight as it was, was sharply limited to the morbid circle, and the enclosed mucous membrane was apparently normal. If any of these rings were pinched between the fingers, no thickening was appreciable, nor did they in any way seem to cause any interference in the mobility of the parts. From a careful study I was convinced that the lesion consisted in hyperæmia and slight increase in the epithelial layers of the parts. The patient had consulted Drs. Van Buren and Weir, who had not at that time seen a similar case. His chief anxiety consisted in a fear that the affection was a commencing epithelioma. Though seemingly insignificant and superficial, these lesions were very persistent, and only disappeared after an existence of several months under an arsenical treatment. The patient took Fowler's solution in small doses, and it was only when fifteen drops thrice daily were taken that full involution of the rings occurred. As they disappeared, the itching, pricking, and painful sensations gradually subsided.

Besides this peculiar eruption on the penis, a few months later the patient had three papules on the right foot, which appeared to be those of lichen planus. The number of papules was increased by the appearance of several on the dorsal aspect of the foot, but they did not disappear under the use of arsenic as did the rings on the penis. In September, 1875, these rings returned, and this time they looked shiny and micaceous. At the same time patient had the same painful sensations as in the former attack, and he felt spots on the penis, which presented no abnormal appearances, yet which were hyperæsthetic even upon light pressure. Besides these morbid phenomena, the patient suffered from an uneasy sensation about the right hip, upon the skin of which he had fugitive sensations, such as accompany goose-flesh. This attack lasted about two months, and left the patient well, except that he had the hyperæsthetic condition of penis upon movement or pressure. Early in January, 1876, the patient suffered from a relapse of his scaling affection of the penis, and at the same time he had several papules bearing the appearance of lichen planus. He underwent further treatment, was cured, and until to-day had not had a relapse, but the slight hyperæsthesia of penis is felt from time to time.

Case 2. A gentleman, an American, of full habit, thirty years of age, having had gonorrhœa two years previously, which had been complicated by right orchiepididymitis, consulted me in July, 1878, for an affection of the prepuce and glans. He was a man free from any diathesis, and of healthy parentage. His orchiepididymitis, which had been treated by me, was followed by more or less severe paroxysmal attacks of hyperæsthesia and neuralgia of the right side of the scrotum and corresponding crural surface, with occasional fugitive neuralgic pains in the hip of the same side. Under internal and external remedies the induration in the epididymis was much resolved, and the painful sensations were

nearly wholly relieved. Still any fatigue, exposure to cold, or excess in eating and drinking was almost certainly followed by an exacerbation of this trouble. Otherwise he had noticed nothing abnormal until May of 1878, two months previous to his visit to me in July of same year. He then began to experience a sensation of slight heat and itching in the prepuce and glans, which caused him to pull and press the end of the penis for relief. Occasionally this patient, as did the first, experienced a sensation as though a pin was pricking his prepuce. In the latter part of June, while on his return from the Continent, he found upon the prepuce the fossa glandis, and on the posterior portion of the glans, several rings, which he said increased in number very rapidly until he came to me. I found about eight fully-formed rings and a number of incomplete ones. On the right side of the prepuce a ring one-half inch in diameter enclosed another of about half the size. These rings were similar to those of the first case, slightly elevated, though not perceptibly thickened. When examined by oblique light they were seen to be distinctly but slightly elevated. They were not very markedly hyperæmic, nor was there much hyperæmia at their margins. The scales covering them were of a dull gray color and quite adherent, but were thrown off in small quantities every day. This patient was also treated with arsenic, and at the end of a month, when he was taking ten drops of Fowler's solution thrice daily, these lesions disappeared. He had a similar relapse in 1879, and for more than a year experienced the peculiar neurotic sensations already spoken of.

Case 3. A gentleman, thirty-six years of age, thin but wiry, of nervous temperament, given to high living, consulted me January 27, 1884. He had enjoyed excellent health through life, but had suffered from gonorrhœa in 1874. In 1880 he had several chancroids, which had been very actively, even severely, cauterized by a country physician. Having a long, tight prepuce, he after this suffered from repeated attacks of balanitis. In July, 1883, he noticed a number of small rings on the glans and prepuce; these were chiefly annoying by reason of the burning and pricking sensations which accompanied them. They disappeared under external treatment, and returned again in December of that year. When I saw him first in January, 1884, he had four typical rings such as were described in the first case. Under arsenic he was cured in four weeks. Locally he used simply a thin layer of absorbent cotton.

The clinical features of this interesting affection are, then, slightly elevated very narrow rings of reddened mucous membrane, with very well-marked but thin layer of epithelial scales superimposed. There was no areola; in fact the limitation of the morbid process was very sharp, the enclosed area of tissue being normal. In general, rings of from one quarter to one-third of an inch were seen, but occasionally they had a diameter of half an inch. Segments of circles more or less complete were seen. The affection was preceded and accompanied in all instances by unpleasant painful sensations, which in one instance were very severe, and even persisted on the site of the lesion after their disappearance. No scar or loss of tissue was observed after their involution.

It would seem that the rings remain stationary for several weeks, and that these were liable to be followed by new ones, in all cases the prodromal nervous sensations being felt.

As to etiology, I am disposed to regard the cause as of neurotic origin. In the first case, though the patient suffered from migraine, there was no local cause discoverable; still the painful symptoms were very marked, and at one time were accompanied by painful sensations in the hip of the corresponding side. Of the two other cases, one patient suffered from orchio-epididymitis, and the other from balanitis and tenderness of the prepuce, due to severe cauterization. Instances are not infrequent, though, in which reflex pain about the scrotum and inguinal region are due to this affection of the testicle. Then, again, it is well known that relapsing herpes progenitalis has often followed severe cauterization in subjects previously free from that affection. Whether these analogical facts will help us in explaining the origin of the affection in the last two cases I am unable to say; still it is within the bounds of credence that the affection was in them due to reflex irritation. As to diagnosis, little need be said. The affection is so clearly marked in its appearance and history that it can be readily diagnosed. It may be well to add that the ringed form of the erythematous syphilide, the same form of the papular syphilide, psoriasis, in rings, inea tonsurans (J. C. White), lupus erythematosus, may be found on the glans and prepuce.

The treatment found most efficacious by me was Fowler's solution of arsenic, pushed even to the extent of fifteen drops thrice daily.

Treatment of Fractures of the Femur without Splints.

Dr. D. B. VAN SLYCK thus writes in the *Boston M. and S. Jour.*, February 5, 1885:

For more than twenty years I have treated all cases of fracture of the femur coming under my care without splints of any sort, and with results more satisfactory to myself than by the old method with a Liston splint or any of its modifications. Nor have I seen any mode of treatment, with any sort of contrivance or combination of splints, that can at all compare in simplicity, ease of application, efficiency, and uniform good results, with the mode I am about to describe.

As far as I know this originated with, or at least was first given to the profession in print by, Dr. John Swinburn, of Albany, N. Y., who read a paper on the subject before the New York State Medical Society, which published it in its Transactions in, I think, but I am not sure, 1861. Dr. Swinburn reported about forty cases treated in this way with remarkable success.

In the same volume, and in connection with Dr. Swinburn's paper, was another by Dr. Thorne, of Troy, N. Y., detailing a number of cases treated in the same way, and also describing a mode of treating fractures of all the long bones on the same principle, giving cases, cuts of apparatus, etc.

I have had no practical experience in treating by this method any fractures but those of the thigh and certain forms of fracture of the leg; and I shall, therefore, confine my remarks to this branch of the subject, though I am decidedly of the opinion that the same principle might be successfully applied to the treatment of other fractures, and my recollection of Dr. Thorne's apparatus and mode of treatment is that they were very ingenious and philosophical, and his cases very successful.

I have never seen a word in print on the subject since 1861, and as I have

abundant reason to be satisfied with my own experience in the treatment of fractures of the femur without splints, I concluded to give the result of that experience to the Society, in the belief that it would prove of interest, and in the hope that useful discussion may result.

The mode of treatment in detail, as I employ it, is as follows :

The bed should be at least two feet longer than the patient. For children, and many people below medium height, any ordinary bed with hair mattress is sufficient. For adults of ordinary stature I have a sort of bunk, or bedstead of plain boards, which a carpenter or, in an emergency, I myself, could make in an hour. It should be about eight feet long, and of a width to fit whatever mattress may be most convenient, though the width of a single bed is better. The side pieces may be about a foot wide, and the foot- and head-boards as much wider as desired or as your lumber will permit. Thin strips of board in the corners for legs, coming up to the top of the side pieces; cleats on the side pieces to support the cross slats, and all put together with screws or wrought nails, will make a very simple and easily constructed bedstead, and with a firm, smooth mattress on this you are ready for business.

Now, for an adult, take a strip of adhesive plaster—preferably Martin's—three inches wide and long enough to reach from the knee down the outside of the leg and back on the inside, leaving an ample loop below the foot. On each side of the plaster tear a narrow strip about three-fourths inch wide down to the malleoli. Apply the middle strips on each side of the leg, and the side strips spirally around the leg over them, so that the traction may be distributed as much as possible around the leg, and draw evenly. This is a matter of some importance, as a single strap at the sides is apt to pull off the skin before the treatment is ended. For the perineal band I like a piece of one and one-quarter or one and one-half inch rubber tubing, though the usual band made wide answers well enough. The tubing is easily kept clean, and soft cotton may be kept under it to prevent chafing, and changed when soiled. Tie to each end of about a yard of this tubing strong cords, which are to be passed through a hole in the head-board and tied around a bit of wood. At the bottom of the foot between the strips of plaster place a short piece of lath, or a bit from a cigar-box, of proper length to prevent pressure on the malleoli; tie a strong cord around the middle of the loop of plaster, and pass the two ends through a hole in the foot-board. Now place the patient so that the extension, counter-extension, and shaft of the femur are in line, reduce the fracture, and secure the cord at the foot, as you have already done at the head of the bed. A couple of sand-bags on each side will keep the foot in place with the proper eversion of the toes, and two half-hoops from a small butter-tub, wound and fastened in the middle, and placed over the foot, will protect it from the pressure of the bed-clothes. If the sand-bags do not secure sufficient eversion of the toes, a bandage around the foot fastened to one of the hoops will accomplish this purpose. In the first stage of the treatment but little more extension is needed than is necessary to overcome the spasmodic contraction of the muscles. After the process of repair has fairly begun, say after ten or even fifteen days, the provisional callus is still soft and plastic enough to afford ample time to secure the proper length of the limb by gradually increased extension, while, in the meantime, the patient has become

accustomed to confinement, and the perinæum toughened and prepared for the increased pressure. If necessary to prevent excoriations and foot of the bed may be raised, and a weight and pulley arranged at the foot, and the counter-extension taken off during the daytime. But this should be only a temporary expedient. As a mode of treatment I consider the weight and pulley, or any elastic extension, objectionable, for the reason that they do not prevent spasmodic contraction of the muscles, and it is impossible by this means to graduate the extending and counter-extending force so as to correspond to the actual resistance. In the treatment described you can measure the limb as often as you please, and have only to tighten the foot-cord to keep the injured limb of absolutely the same length as the other, and it is a very easy matter to keep it so.

A simple experiment illustrates the principle on which this treatment is based. Take a wooden rod—say a piece of a broomstick, saw it in two anywhere in its length, either transversely or obliquely, surround it with a number of elastic cords fastened at each extremity, so as to allow the middle ends, representing the fracture, to overlap each other. Now make extension and counter-extension, and these ends of necessity fall into apposition and the stick becomes straight. The same experiment may be tried on the cadaver, by dissecting up and separating the muscles of the thigh in their continuity, and breaking the bone, when extension will surely reduce the fracture and all deformity disappear. With the bone surrounded by live muscle in a state of tension, can a better splint be imagined to retain the fragments in position?

If then we have such a splint of nature's provision next the bone, where its effectiveness is absolutely perfect, how irrational it is to apply splints and bandages on the outside of the limb with the inevitably evil result of producing, by pressure on the contused and infiltrated tissues, adhesions that prove a serious hindrance to the usefulness of a leg long after the bone itself is substantially sound.

I am aware that the theoretical objection can be raised that some of the muscles—as the adductors—act upon the bone at an angle, and not in the line of the shaft, and that their tendency is to produce lateral deformity. According to my experience, the objection does not hold in practice. I think the perineal band has some influence in restraining the lateral traction of these muscles, while the tenseness of the muscles which do directly envelop the bone prevents any displacement. At any rate, I know it as a clinical fact, that when there is no shortening there is no deformity—an argument which will stand against any amount of theory.

Suppose yourself just called to a case of this injury, what do you find? A patient in great suffering, with a crooked shortened thigh, and every fibre of its muscles you can feel under your hand quivering and straining with spasm, as they are gored and irritated by jagged ends of bone at the seat of fracture.

Now let some one grasp the patient under the arms to fix the body, while you seize the ankle of the injured limb, and slowly and firmly draw it down to its normal length, and so fix it till the spasm subsides. What surgeon has not seen in a like case the sudden transition from intense agony to perfect ease and contentment? Still holding the ankle, and maintaining full extension, rotate the leg. Is there any grating of the broken ends of bone together? Not at all, nor

does the movement give the sufferer any appreciable pain. The head of the bone rotates in the socket, and the whole limb turns precisely as though no fracture existed, showing that as long as the muscles are held tense, you have a perfectly effective splint immediately around the bone. By reason of this, all through the treatment, the patient, unembarrassed by external splints, enjoys a good degree of comfort and freedom of movement. On one heel and his elbows he can raise himself up to use a bed-pan, can turn toward the injured side, and assume almost a sitting posture, without pain, displacement of dressings, or injury of any sort to his case. Another important consideration is that the seat of the injury is always open to inspection, a matter of very great consequence in cases of compound fracture. When I have added that in simplicity and ease of execution this treatment surpasses any other, and that I believe it will give far better average results, I may claim to have summed up the case.

My first opportunity to put in practice the method above described was in the United States service, at Fredericksburg, Virginia, in 1863, after the battles of the Wilderness. The mortality after amputations on the field for gun-shot fractures of the thigh was so great that these cases were ordered to be sent to general hospital and primary amputation forbidden. The sufferings of these poor fellows in transportation was so great that, at my request, all such cases in the cavalry hospital were assigned to me, and I made rude bunks, similar to the one I have described, with projecting sides for handles, and of a size to fit an ambulance. After removing all loose pieces, as well as the sharp points of bone in the wound, the men were placed in these bunks, extension applied, and they were carried to their destination in the greatest comfort. Spasmodic action of the muscles was controlled, the sharp ends of bone no longer gored the tender flesh with every jolt of ambulance or car, and, as many a poor fellow expressed it, he felt as though in a new world. After this I managed to improvise some sort of extension and counter-extension for these cases even on the field, with only a stretcher to work with, and was amply repaid for my trouble, by seeing how much more comfortable these cases were.

Since then I have treated in private practice, without splints, twelve cases of fractured femur, two cases of fractured tibia, two cases of fractured tibia and fibula—one of the latter compound.

I had intended to give these cases in detail from my notes, but I should exhaust your patience, and will only give results. Of the femur cases, nine were fractures at different points in the shaft of the bone, and in eight the results were perfect—no deformity in any, absolutely no shortening in five, and not more than half an inch in three.

The ninth was an exceedingly unmanageable case—a very nervous and excitable woman, sixty-six years of age—fracture at the upper third. She could not bear a perineal band at all, and I depended on the weight and pulley, and elevating the foot of the bed; and I found out afterward that whenever she thought the extension uncomfortable, she made her daughter put a cricket under the weight. There was two and a half inches shortening, and considerable deformity.

In the other three cases the fracture was intracapsular, and they were treated with weight and pulley extension, without perineal band. All were women. In the first, aged sixty-five, there was good union, and a useful limb, with one and a half inches shortening; walked without crutches in thirteen weeks.

The other two cases, aged respectively sixty-eight and seventy-four, recovered with as good results as could have been expected. At the end of eight weeks, when extension was discontinued, the limbs were of equal length, but shortening began at once, and at the end of a month amounted to three inches. Both wore crutches the rest of their lives, being cases of non-bony union.

In the eight typical cases, extension was discontinued in from four to seven weeks; they were on crutches in from five to eight weeks, and cured in from six to eleven weeks.

The last case, treated in October, 1883, illustrates the special advantage of this treatment in a marked manner. B. W., a boy of nine, suffered an oblique fracture of the femur at the lower third, by being run over and kicked while witnessing a foot-ball fight. He was sufficiently quiet by day, but perfectly unmanageable at night. He would toss about in his sleep, have night terrors, scream, and kick with his well leg and try to do so with his broken one, and would often be found with his head and part of his body hanging over the side of the bed. This was almost a nightly experience with his parents for three weeks, yet extension was discontinued in four weeks. He was on crutches at five, and walked without in seven. To-day it would be impossible to tell which thigh was broken.

The fractures of the leg were all above the middle, and were treated precisely as the thigh case, and with perfectly satisfactory results.

I apply in all cases a silicate of potash bandage before letting a patient out of bed.

Genu Valgum—Removal of a Wedge of Bone.

Before the Sheffield Medico-Chirurgical Society (Jan'y 15th), Mr. PYE-SMITH showed a wedge of bone which he had recently removed from the lower end of a man's femur for the cure of genu valgum. The patient was a cab-driver, æt. 28. He had been admitted into the Public Hospital and Dispensary on account of a partial dislocation outwards, and into its inner edge, of the left patella. This was reduced under ether by flexing the knee, and the osteotomy had been subsequently performed to remedy the knock-knee. The degree of deformity was very great, the legs forming an angle somewhat greater than a right angle when the knees were placed together in bed. A wedge of bone was removed by means of a small saw from just above the condyles of the left femur, the apex of the wedge having an angle of about 40°. Listerian antiseptic precautions and dressings were employed. The case is progressing favorably, and it is intended soon to operate on the other limb, which is equally affected.

Fractures in Syphilis.

L'Union Méd. says that in a recent work on this subject Dr. LOUIS GELLE draws the following conclusions on this subject:

In hereditary syphilis one observes, in newly-born children, two kinds of lesions, separation of the epiphyses, fractures, either juxta-epiphyseal or in the shaft, lesions which give rise to pseudo-paralysis. In older children, fractures which occur and consolidate spontaneously without specific treatment, just as in the case of healthy persons, though in some cases the children may have specific lesions, as gummata, etc., at a later date.

Acquired syphilis, almost always in the tertiary period (*a*) constituting a predisposing cause of fractures; a cause which appears in a number of spontaneous fractures, whether the syphilis causes a general alteration of the osseous system, as some rare cases seem to show, or whether it causes a local lesion which diminishes the resisting power of the bone at this point. (*b*) In a certain number of cases it retards the consolidation of fractures; sometimes it is a cause of pseudarthrosis, but in the majority of cases the fracture consolidates under appropriate treatment. (*c*) It may cause specific ulceration of the wound when the fracture is compound. (*d*) In some cases it may appear in the cicatrix, the callus forming a *locus minoris resistentiæ*.

Syphilis appears, then, to play an important part in the causation of fractures, and may be manifested at a late period at the seat of an old fracture. In all cases, therefore, in which the fracture is out of all proportion to the traumatism, or in which consolidation is delayed or does not take place, the surgeon should ascertain whether he has not a case of syphilitic affection to treat, so as to aid consolidation.

Hygroma Linguae.

Before the Chicago Medical Society (February 16, 1885), DR. JOSEF ZEISLER reported a congenital case of this rare disease. The patient, about nine years old, has been afflicted with it since her birth. The child is well nourished, but her complexion is pale and her face is asymmetrical to a considerable degree. The right half of her face is much more developed in its muscular and osseous formation than the opposite side. No swollen submaxillary or cervical glands are present. Her tongue was described as having the following appearance: It is much thickened; the surface appears to consist of small vesicles or cysts, varying in size from that of a pinhead to a pea, lying by the side of each other in the form of mosaic pieces of work, or in a tessellated shape. These cysts seem to contain a colloid mass, and this condition affects the entire visible portion of the tongue, so that no intact mucous membrane can be seen. Over the middle of the tongue there extends a kind of cockscomb, or carunculated excrescence. The same appearance is found on the mucous membrane of the right cheek, near the angle of the mouth. In handling or touching the tongue, the surface imparts a sensation as if it consisted of oil-globules or of boiled sago. The movements of the organ, as well as speech, are not impeded, nor is the sense of taste in the least impaired. There are no spontaneous pains proceeding from it, and pain arises only when strong compression is made upon her tongue, or, as the child says, when acid substances are taken. Relatives of the child report that its tongue was formerly much larger, although it sometimes now appears to become cedematous, and then grow smaller again. Her parents and her five brothers and sisters have always enjoyed good health.

The speaker regards this disease from a pathological standpoint as a colloid degeneration of the mucous membrane of the tongue, but he could not classify it clinically, having never seen a similar case previously. A microscopical examination was not permitted to be made of any of the cysts or their contents. Regarding treatment, all that was suggested as a remedy was galvano-puncture, which the parents also objected to having done.

Lithotrity Under Cocaine.

Before the New York Surgical Society (Feb'y 24, 1885), Dr. ROBERT F. WEIR referred to a case in which he had performed lithotrity under the influence of cocaine. The patient was a man 72 years of age, with marked cardiac lesions, and his condition was such as to preclude general anæsthesia. He had long suffered from prostatic trouble, and a number of years ago submitted to an operation of prostatotomy by Dr. Gouley, with marked benefit. The calculus was about three-quarters of an inch in diameter, and phosphatic in character. Lithotrity, practiced after the old method, was twice tried, with considerable suffering to the patient, but his condition was so poor that further efforts in this way could not be entertained. The patient's vesical sufferings were so great that he finally determined to see whether cocaine would be of sufficient service to enable him to remove the remainder of the calculus. He, therefore, on February 5th, injected into the bladder, previously washed out with warm water, three drachms of a four per cent. solution, and allowed it to remain fifteen minutes, when an additional quantity of water was thrown in, and the lithotrite was introduced. Although the urethra was still somewhat sensitive, the pain in this part was very much lessened, the bladder was entered without distress, the stone seized, from five to eight crushings rapidly made, Bigelow's apparatus No. 29 curved catheter introduced, and the aspiration effected. The entire operation occupied not more than eight to ten minutes. While the procedure was not absolutely painless, the cocaine reduced the sensibility of the invaded urinary tract to such a marked degree that the patient endured the operation without special difficulty. In the *Lancet* of January 17th, received the day Dr. Weir operated, there is a report of a similar operation in which the cocaine had been used with much more satisfactory results. The patient was operated upon at St. Peter's Hospital, and the stone had been crushed and withdrawn in less than fifteen minutes in a painless manner. In this case, four drachms of a four per cent. solution were injected into the bladder.

Dr. Markoe inquired if there were any cases on record in which unfavorable effects had been produced by cocaine when applied to the unbroken mucous membrane.

Dr. Weir replied that he knew of none.

Dr. Hall remarked that he had seen constitutional symptoms produced by an injection into the urethra of two drachms of a four per cent. solution of cocaine. He had discovered also what did not appear to have been previously noticed, namely, that while small quantities produce vaso-motor spasm, and consequently anæmia of the part, large quantities produce vaso-motor paralysis and congestion. In the same way, when a dose just large enough to cause constitutional symptoms was given, the patient had dilated pupils, with pallor of the face, nausea, and a small, hard pulse; while, after much larger doses, the pupils were not more dilated, nausea and pallor were absent, the pulse was full and soft, and a dreamy mental condition was produced.

Lithotrity, with Immediate Evacuation, in Male Children.

The *London Med. Times*, January 24, 1885, says: Lithotrity in the male adult during the last six years has undergone a radical change. Formerly a stone was

crushed in many sittings ; now the lithotritist takes the greatest care to crush and evacuate the entire stone at one operation, and the more nearly he is able to do this, the better are his results. Lithotomy in children is so successful an operation, the mortality in England being only about 1 in 15, that, as far as we are aware, English surgeons have accepted it as, without exception, the operation for stone in children. This, no doubt, has been partly brought about by the known repugnance lithotritists have always had to operating upon children by the older or many-sitting method. The child's bladder and urethra are particularly ill adapted for the residence or expulsion of fragments of stone, and unless the stone has been very small, and therefore readily comminuted, and brought away in a small scoop lithotrite, we think we are justified in saying that in England lithotomy is still considered the better procedure, although we are fully aware that lithotrity has frequently been successfully practised upon the child. As very few dicta must be considered as final in surgery, we have read with much interest Dr. Keegan's paper on "Lithotrity in Children," published in the *Indian Medical Gazette*, during last year. He relates twenty-four cases of stone in male children, their ages varying from one year and nine months to twelve years, in which he and Dr. Beaumont, his predecessor at the Indore Charitable Hospital, and his assistant, Mr. Gunput Singh, have performed lithotrity at one sitting. All the children recovered, except one, and he owed his stone to the presence of a piece of reed in his bladder, which had entered by perforating the rectum and bladder some time before ; and as this fact was unknown to Dr. Keegan, it is only fair to exclude this case from the list, for had he been aware of the previous history of the child, lithotrity would not have been attempted, but the foreign body and its surrounding stone removed by lithotomy. Dr. Beaumont operated upon the first six cases : his plan was to thoroughly comminute and pulverize the stone, and to leave the fine *débris* to come away by the natural expulsive efforts of the bladder. No record of the nature or weight of these six stones was made. Of the remaining seventeen (we exclude the fatal case) fifteen were operated upon by Dr. Keegan, and two by Mr. Singh. The stones were chiefly uric acid, and their weights varied from five to two hundred grains. All the patients were operated upon while under the influence of chloroform, and in all Dr. Keegan's cases the stone was not only crushed, but evacuated during the operation. He used tubes varying in size from 7 to 9 E, and he speaks highly of Mr. Berkeley Hill's excellent modification of Clover's aspiring bottle. The lithotrite used was made by Weiss, and its size was 8 E. Dr. Keegan particularly mentions with high praise Sir Henry Thompson's sound, and he naturally has much to say in favor of extreme gentleness and care in practising manipulations in the urinary passages of children. He occasionally divided the external meatus, and sometimes took nearly an hour over the entire operation. We strongly urge English surgeons to note Dr. Keegan's work, for although lithotrity combined with immediate and complete evacuation of the *débris* cannot yield in children such markedly improved results, compared with lithotomy, as it has done in adults, still it certainly appears to be well worth trying.

A Simple but Unique Method for Removing Certain Forms of Foreign Bodies Embedded in the Eye.

Dr. E. MEIERHOF thus writes in the *Maryland Med. Jour.*, Jan'y 3, 1885: There are certain forms of foreign bodies embedded in the eye within easy reach of removal, which do not admit of the ordinary methods employed for the purpose. Every one is familiar with the device of wrapping or twisting absorbent cotton on a splinter of wood, such as the common tooth-pick, an idea which suggests itself to the merest tyro; the necessary material being generally at hand, and seemingly little risk incurred in the procedure. Yet there are objections which can be properly urged against this method, due to some risk in causing certain forms of foreign bodies, such as fine splinters having the properties of brittleness with sharp or irregular points, which were previously superficial, to become imbedded. As long as the particle is confined to the palpebral and ocular conjunctivæ, there is practically no danger, but on the cornea it is quite different. Any one who has seen many foreign-body cases among mechanics and others, is made familiar, in a very practical way, with the vulnerability of the conjunctival epithelium covering the corneæ, and also its deeper structures, although histologically the corneal tissues proper are shown to be quite tough and unyielding, which is no doubt quite true of experiments in testing its toughness by pricking or sticking the laminated corneal structures at right angles to their surfaces; but if we attempt the experiment so as the point of the instrument passes in a more parallel direction to the surfaces of the corneal lamina, it is found much easier of frustration. This I have often verified on the eyes of man and the lower animals.

Dr. C. R. Agnew, of New York, is said to be quite fond of the cotton-mop for removal of foreign bodies; others, especially Dr. Knapp, have tried it, but generally use the triangular-shaped spud, as being, after all, more safe and scientific.

Now, occasionally we meet with a class of cases which do not admit the use of the spud, on account of the peculiar position in the embedded structures of the foreign body. It was such a case as I am about to describe which I had the opportunity of observing at the New York Eye and Ear Hospital, in the service of Dr. P. Callen. The following is a description of the case: A boy about eleven years of age presented himself for an injury to his eye, caused by a companion having thrown, the day before, a burr of the thistle-weed such as grow on the commons and outskirts of the city. The juvenile term for the burr is "nigger lice," as they are aimed at the head, and sometimes are entangled in the woolly structures. It was the spine of such a burr which was found in the boy's left eye, it having gone through the cornea, the depth of the anterior chamber and iris, and just touched the lens capsule, producing slight cloudiness in the vicinity of contact. The eye did not seem to indicate a great amount of irritation; there was some injection of the conjunctiva. He appeared to suffer little pain, not as much as one might expect from a foreign body piercing the iris, and either tearing that delicate structure or causing some dragging on its peripheral attachment, when the pupil dilated and contracted; for when the boy presented himself he had the eye uncovered, thereby allowing the light to exert its influence on the iris.

When the case was first seen it seemed to appear a very easy matter to seize

the minute protrusion through the lower nasal part of the cornea with a pair of fine forceps; but after many futile attempts with various appliances, it was decided to make a corneal section, and adopt the usual method of seizing the thing with a pair of forceps and attempting its removal in the manner deemed safest. Just before attempting this method, the expedient of passing a fine needle on each side of the offending body, to raise it up sufficiently to be seized with a pair of forceps, was successfully tried; whereas in the previous effort it was impossible to grasp the end. After the operation atropine was put in the eye. After a few days the irritation ceased, and the opacity on the lens capsule appeared to diminish.

Cases somewhat similar to this one may come under the care of any practitioner, and the simplicity of the procedure recommends itself especially on that account. Muriate of cocaine, which was used in this case, was not entirely successful.

Case of Compound Dislocation of the Semilunar Bone of the Carpus.

Dr. GEORGE BUCHANAN thus writes in the *London Med. Times*, January 24, 1885:

Dislocation of single bones of the carpus is very uncommon. Cases have been reported of dislocation of the semi-lunar bone, one of which was brought before the Medico-Chirurgical Society by Dr. Cameron in 1880. The cause of the displacement seems to be that when the person falls forward on his extended palm the violence of the blow forces the little bone out from between its neighbors, each of which is very firmly attached to the adjoining bones of the carpus.

The following case is a well-marked example of this singular accident:

Alex. M. L., aged 28, seaman, was admitted to the wards on the 12th December, 1884. He had fallen from a height of 20 feet into the hold of a ship, and lighted partly on his right hand, which was stretched out in front of him as he fell. He was partially stunned, but soon recovered consciousness. On admission it was found that he had received a deep lacerated wound at the lower part of the forearm, just above the wrist. At the bottom of the wound, but superficial to the bones of the forearm, a small round bone was felt; the crepitus and abnormal mobility showed that the lower part of the radius was fractured. As the little bone seemed firmly attached by ligaments, the house surgeon contented himself with placing the parts as nearly as possible in their natural relation, syringing out the wound with carbolyzed solution, and applying antiseptic dressing.

On the following morning, in my absence, Dr. Renton, assistant surgeon in my clinique, dressed the wound, and finding the little bone still attached by ligaments, he endeavored to push it back and re-applied the antiseptic dressings.

On the 17th the bone was again lying in the wound, and considerable cellulitis existed round the lower part of the forearm. I therefore removed the bone, which proved to be the semi-lunar, and on introducing my finger into the bottom of the wound found the styloid process of the radius chipped obliquely off from the shaft, and considerable suppuration among the deep tissues. Free incisions were made for the relief of tension, and to give exit to pus and sloughs of the

areolar tissue. Drainage tubes as before were introduced to secure free discharge taking place.

On the 27th it became obvious that the whole of the carpal bones were denuded of cartilage, and besides there was an abscess on the anterior edge of the axilla. I therefore amputated in the forearm. I also freely opened the abscess referred to, and found that the pectoralis major muscle had been completely torn across, and that had been the cause of the abscess.

The amputated hand was carefully dissected, and, except the gap from which the semi-lunar bone had been forced out, no other injury of the carpus had been sustained, all the bones being in their natural position, but the intervening cartilages were completely eroded.

The patient recovered rapidly from the amputation.

On Chancres and Syphilis.

Dr. JONATHAN HUTCHINSON, F. R. S., thus writes in the *London Med. Times*, March 21st:

The name chancre is commonly applied to any sore on the genitals which has been produced by contagion, in the sexual act. It is inconvenient, I think, to restrict its application only to sores which are likely to produce syphilis. Syphilis is a disorder of the blood and the whole body which is caused by a specific animal poison, which can for the most part be received only by contagion. It is not, like some other of the diseases due to specific animal poisons, capable of spreading by the air; it can be conveyed only in the fluid form; that is, by touch of the affected parts or contagion. Let me at once explain that although we habitually and constantly associate syphilis with the sex-organs and with impure sexual intercourse, it has no necessary connection with them. It may be produced in other ways, and is then precisely the same malady; but since it happens that in ninety-nine cases out of the hundred the contagion occurs in the sexual act, we cannot get out of the habit of regarding it as in some obscure way a sexual disease. The truth is simply that the sexual act offers the easiest means of its communication by contagion.

When and how the syphilitic virus first originated or was communicated to the human subject we know not, just as we do not know how small-pox or measles began. Syphilis is now spread pretty much over the whole world, although there is good reason to believe that it is of only recent introduction in many parts. It may be that it is only of recent introduction into Europe, say within the last three centuries, but about this there is much doubt.

Now, if you would get clear ideas about chancres and syphilis, you must begin by recognizing that they are caused by a specific poison which is *particulate*. By specific I mean that it constitutes a species distinct from all others, and produced only from its own seed, just as barley and clover are specific and can be grown only from their own seed. By particulate I mean that its virus is not a simple fluid, but consists of particles which are organic; just as the seeds of plants or spores or fungi are organic and particulate. These particles are living and capable of growth, and in their growth and multiplication they take certain definite periods of time. No one has as yet recognized these syphilis-particles by the microscope, but we cannot doubt that the discovery will one day be made; indeed,

we cannot but feel some surprise that it has not been made already when we remember how much in this direction has recently been done respecting many diseases. When this particulate germ-virus of syphilis is present in the human tissues, its growth is attended by inflammation. There is congestion, cell multiplication, swelling, and often ulceration also. The severity and type of the inflammation will be much modified by the peculiarities of the individual in whom the poison is acting. Not that necessarily those in bad health suffer most severely. It is more a question of individual peculiarity—idiosyncrasy, as it is called—than of health, and not unfrequently those apparently in the most robust health suffer more severely when they contract syphilis than those who are feeble. It is just so in the case also of the other specific animal fevers. Healthy infants, when vaccinated, often have much inflammation about the pocks, and in small-pox, measles and scarlet fever it is a matter of common observation that those who appear to be robust often suffer most.

You will be prepared now to understand that chancres do not present exactly the same characters in all persons. In truth, they differ very much, and hence great difficulty in correctly recognizing their character. If you begin by believing that all chancres will conform to the descriptions that you may have read in books, that, for instance, all true chancres will be very hard, and all free from pus secretion, you will make constant blunders. These are common conditions of the true chancre, but not invariable ones. Not only do chancres vary in character in different individuals, but they vary also in the same person in different stages. Before I proceed to describe to you these differences, it is desirable that I should tell you that not all chancres can produce syphilis. In the contagion which caused the sore it may have happened that none of the germ elements of syphilis passed over, and if they did not, then the pus-cells, or fluid secreted by the sore in the person who gave the disease, may be sufficient to cause irritation and ulceration, but not to produce syphilis. Thus we frequently see in vaccination that the true vaccine vesicle may fail to be produced, and yet more or less of inflammation may be caused. If vaccination were done hap-hazard from sores in all stages of progress, this result would be much more frequent than it is, and there are precisely the conditions under which syphilitic contagion does occur. Many of the sores due to syphilis are ulcerated and secrete pus, and it is in this pus that the particulate germs float. It may easily happen that in some states the virus is either killed, or much enfeebled, or wholly absent, and then we shall witness the consequences of contagion with an irritating pus, but not the production of true syphilis.

You will see, then, that we must expect to encounter some false chancres, or chancres which do not contain a specific poison, and which cannot therefore infect the body with syphilis. Thus we have true chancres, or infecting, and false chancres, or non-infecting. Those of you who have already learned something in this matter will probably at once think, "Yes, we have hard chancres and soft chancres," but I must demur to these terms; they are misleading. We will speak of true and false rather than of hard and soft, and we will then try whether we can devise rules for identifying the true ones. It is a most difficult matter, and mistakes are made every day. If you would avoid them, you must get rid of the notion that all infecting or true chancres are always hard. When

a sore becomes definitely and unmistakably hard, then you may be almost sure that it is a true chancre, and will infect the system; but the absence of hardness must go for very little. If you trust to "softness" in the sore as a means of diagnosis, you may easily give opinions which your patients will think show softness in your head. It would indeed be a gain if we could get rid of the term "soft sore," and never use any stronger one than simply "not indurated." Absence of hardness is indeed the only quality which we ought to specify, and even in doing this we must be careful to remember that it applies only to the day on which we examine it. A sore which is not hard one day may become so a few days later, or may have been so a week back. To diagnose "a soft sore" is, therefore, in nine cases out of ten, to make a foolhardy guess, which but too often you will have to repent.

I will now describe to you the course and stages of true syphilitic contagion; and, having done this, we will then again consider the question of the diagnosis between false and true chancres.

If you were to take on the point of a clean lancet a little of the blood of a syphilitic patient, or, still better, of secretion or blood from a hard chancre not inflamed, and inoculate with it a healthy person, the following would probably be the course of events: For a few days after the puncture there would be a little redness and irritation around it, and then these would disappear, and all traces of the injury would be lost. At the end, however, of from four to five weeks, the site of the puncture would begin to itch a little, and next to become red, and then there would form around it a little hard button. This button would, with some persons, not ulcerate, but in the majority, in the course of a fortnight, it would be inflamed and ulcerated more or less. At the end of from six weeks to two months from the date of inoculation it would be at its height, and the induration around it would be very characteristic. In some instances, it might be such as to suggest that a little disc of cartilage had been inserted into the skin. The degree of hardness and the tendency to inflammation will vary somewhat with the part of the body inoculated. For instance, if the root of a finger nail be affected, there will almost always be much swelling and suppuration. Well characterized hard chancres may, however, be met with in almost all parts; in the genitals constantly, and, in exceptional instances, on the lips, eyelids, tongue, fingers, or any part of the surface of the body. At the same time that the sore takes on induration, the lymphatic glands nearest to the sore enlarge. They do not swell much, but become very firm, and usually remain loose in the cellular tissue, and not adherent to each other. Their hardness is sometimes such that the term "bullet bubo" seems appropriate, and they are often spoken of as amygdaloid or almond-like. They do not cause the patient much pain, and they very rarely suppurate. When the chancre is at its height, and the bullet bubo well marked—say six weeks or two months after the contagion—the patient usually begins to feel a little unwell. He is feverish in the evening, has some headache, and often pains in his bones and joints. About this time also he usually begins to show some eruption on his skin, the abdomen, or front of chest, or front of arms, being the parts first affected. The rash is most often at first simply congestion, a roseola, or measles-like rash, but differing from measles in color, being dark and dusky. After a week or so the roseola

fades, and is followed by one of a variety, a papular, or pustular, or scaly form; a lichen, a psoriasis or an acne. With the rash there is usually a sore throat, and this takes the form of symmetrical kidney-shaped ulcers on the tonsils with white edges. Syphilis in what is called its secondary or constitutional form is now thoroughly established. The virus has bred and multiplied first in the chancre, then in the lymphatic glands, and lastly in his blood. He is now saturated with it, his blood is contagious, and the secretion from any sore that he might have would be contagious. If, however, you were now to inoculate the same man again, whether from his own chancre or that of some other person, you would fail to produce any effect, just as if you were to vaccinate a person who had been successfully vaccinated a fortnight ago, or who had small-pox on him. The whole system is in the possession of the virus, and it cannot breed it a second time.

In the description which I have given I have been presuming that all treatment has been avoided, for it happens that we know of a drug which has the most remarkable power of arresting the growth of the syphilitic virus at all stages. If this drug (mercury) be used early, the chancre will not become indurated; and if it be given after induration has set in, it will remove it, and will prevent the development of rash and sore throat. In many cases, perhaps in almost all, although it may be completely successful in preventing development of the virus, yet it does not seem, however long continued, to kill it; for if the mercury be left off, the long delayed symptoms in the skin and throat soon make their appearance. They are, however, much milder than they would have been had mercury not been given. We give to mercury the well-earned name of a "specific" because it appears to possess the special and almost invariable power of acting as an antidote to the virus of syphilis.

Let me now complete the picture of the course of syphilis, still on the understanding that we avoid the employment of the specific antidote. If, then, the chancre and the eruption, etc., be left to themselves, they will last together for a certain time, and then disappear. The chancre, which was the first to come, will be the first to go, and at the end of three or four months probably all traces of induration will have vanished. The rash may last much longer, and may be attended by falling of hair, inflammation of the iris, and sores in the mouth, with, in a few cases, much febrile disturbance and loss of flesh. At the end of six months from the beginning, however, many patients will have got rid of their symptoms, and by the end of a year a large majority. The riddance, however, is in many instances not complete; at times a fresh attack occurs, but more usually there is no renewal of the general rash, but rather what we may call remainders, that is, slight local symptoms, sore tongue, peeling patches in the palms of the hands, and the like. That the poison remains potent for fresh contagion for a long time is well proved, but at the same time it seems likely that after the lapse of eighteen months or two years it usually ceases to be so. During the eighteen months, and in some persons longer, the blood was inoculable; and if the patient had married and had a child, his child would in all probability have taken over the germs from him and developed the syphilitic fever with skin-rash, etc., about a month after birth. Even after the blood has ceased to be contagious, and all danger of transmission is at an end, the patient is himself not wholly safe. His

tissues have all been fed for many months by blood which was loaded with the virus, and there results a risk that they may at some future period, after irregular and very long periods, and perhaps in connection with slight injuries, inflame in a peculiar manner, and produce growths or ulcers which are easily recognized as only possible in one who has had syphilis.

Continuous Traction in the Treatment of Potts' Disease.

Dr. JOHN F. RIDLON thus writes in the *Med. Record*, February 7. The *Boston Medical and Surgical Journal*, vol. cxi., No. (July 3, 1884), published an article on "Extension in the Treatment of Diseased Vertebrae," by Buckminster Brown, M. D. The principles advocated accorded with theories held by me for some time, but not put into practice from lack of the right case under the right circumstances. On July 16, 1884, the case presented.

Patient female, seven years old. Hereditary history good. Four months ago her neck began to grow stiff, and soon head began to droop forward. No complaint of pain, and no crying at night noticed. The condition increased. The general health remained fairly good.

Examination.—The chin rests on the sternum, and at times is steadied by the hands. Voluntary movement of the head is impossible. Attempted passive movement in any direction elicits an anxious look, but no complaint of pain; and the head is found to be held absolutely rigid by muscular spasm. There is a sharp angular kyphos at the third cervical vertebra. No evidence of abscess. The patient was put in bed on July 19th, a Sayre's collar was applied, and from it a cord passing over a pulley at the head of the bed, which was elevated and a ten-pound weight attached. It was soon found that the patient would slide up in bed till the straps from the collar struck the pulley and released the traction. A harness was then arranged, of webbing around the waist and over the shoulders, and passing to the foot of the bed, where it was fastened. The appetite was good and the sleep normal. From this time the case progressed favorably. The muscular spasm relaxed; the chin left the sternum and the kyphos diminished. By the end of six weeks, voluntary rotation and flexion were possible to a considerable degree when the patient was lying in bed.

By November 15th, four months from the beginning of treatment, the deformity was entirely reduced, and motion free in all directions when the head was supported. When support was removed, however, the head drooped forward, and the patient caught the chin in her hands and complained of the motion. A support was then applied consisting of a modification of the H. G. Davis brace. The upright pieces of steel, instead of stopping opposite the lower borders of the axillæ, were carried up along each side of the spine, carefully moulded to the surface, and up over the posterior surface of the head to the occiput. From here a strap was carried around the forehead, and another downward to form a chin support. The chin support was removed at meal times, and has recently been removed altogether. Up to the present time there has been no return of the deformity, and the possible voluntary motion has increased.

I have followed one other case, but with less satisfactory result. During the vacation of Dr. Newton M. Shaffer, I commenced the treatment of a similar case in a like way in his service at St. Luke's Hospital. The hereditary history was

not clear, a brother having died of meningitis, and the case was complicated with an abscess. The case improved, however, but the kyphos could still be distinctly felt when Dr. Shaffer returned. He did not approve of the traction treatment, and I put the case in Dr. C. F. Taylor's spinal brace and chin piece, with Dr. Shaffer's ball-pivot joint. The kyphos was slightly increased in size, but the patient has no pain, and prefers the brace to the traction in bed.

Observing the two cases, I have been led to believe that in certain cases traction, as in hip-joint disease, will relieve reflex muscular spasm and pain more quickly, and give a better result as to deformity, than will fixation alone.

Calculus Impacted in Urethra.

Dr. HENRY MORRIS, in the *American Jour. of the Med. Sciences*, contributes a short paper with reference to operative interference in cases of calculus impacted in the ureter. The author records the case of a lady who died with all the symptoms of renal calculus. Three days before her death he made a digital exploration of the bladder, and felt a small hard substance under the mucous membrane, in the region of the orifice of the left ureter. The patient would not consent to an operation, though the author proposed to remove the calculus. Since then he has devised a long-handled, gun-shaped lancet, with which in similar cases it is proposed to make an incision through the mucous membrane of the bladder on to the stone, which could then be easily removed with the scoop. It is strongly urged that, in cases of hydro- or pyo-nephrosis, an examination of the bladder should be made before nephrectomy is performed.

QUARTERLY COMPENDIUM
—OF—
MEDICAL SCIENCE:
—A—
SYNOPSIS

—OF—
THE AMERICAN AND FOREIGN LITERATURE OF MEDICINE,
SURGERY AND COLLATERAL SCIENCES.

EDITED BY
D. G. BRINTON, M. D.,

—AND—
JOSEPH F. EDWARDS, M. D.

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

A Third Laryngeal Nerve.

The *Boston M. & S. Jour.*, April 9, 1885, tells us that the discovery is announced by Professor SIGMUND EXNER, in his work, "*Die Innervation des Kehlkopfes*" (Vienna, 1884), of a third laryngeal nerve—*nervus laryngeus medius*. This nerve is derived from the pharyngeal and laryngeal plexus formed by the pharyngeal branch of the vagus with other nerves, and enters the crico-thyroid muscle, which is also supplied by the external branch of the superior laryngeal nerve. The interarytænoid muscle is supplied by both upper and both lower laryngeal nerves, and, generally, each muscle is innervated by several nerves. The above conclusions are deduced from three lines of research: (1) irritation of nerves in living animals; (2) degenerations of nerves after section in living animals; (3) examination of the larynx in children (*post-mortem*).

The Brain in General Paralysis of the Insane.

In the *Brit. Med. Jour.*, April 18th, Dr. BASIL describes the brain of a patient who died after suffering for over two years from general paralysis of the insane. The specimen showed most of the typical lesions in the disease. The pia mater was greatly, but not uniformly thickened; under it there was in patches a thick layer of gelatinous "membrane;" the two hemispheres of the brain were glued together at points; the grey substance of the convolutions was atrophied, especially in the temporal lobes; the white substance was congested in patches; the vessels in the brain substance were very distinctly visible, and their circum-vascular sheaths were dilated; the vessels at the base were atheromatous in patches; the ventricles were dilated, their epitheloid lining thickened. The ventricles and skull-cavity contained, when opened, about twelve ounces of serous fluid.

Defective Cerebellum.

To the Manchester Medical Society, March 18, 1885, Dr. SHUTTLEWORTH exhibited a cast and photographs (by Dr. Ferrier), illustrating a case of defective cerebellum. The specimen was taken from a girl aged 15, who died of phthisis in the Royal Albert Asylum. No motor disorder or peculiarity had been noticed during life, beyond general muscular weakness, and slight tremor of the hands and arms. At the necropsy, the following abnormalities in the cerebellum were discovered. From a small central nodule projected to the right a triangular process under an inch in length, representing the right hemisphere; and, to the left, an excrescence measuring about one-third of an inch alone represented the left hemisphere. The site of the pons Varolii was marked merely by some transverse fibres. Mental deficiency had existed at least from five years of age, if not congenital.

Pathogenesis of Suppuration.

Before the first French Surgical Congress (*Med. Record*, May 16, 1885), M. SOGIN, of Basle, recounted the results of some recent investigations into the pathogenesis of suppuration, undertaken under his direction by M. Garré, his laboratory assistant. He found the yellow and white micrococci, described by Rosenbach and Kräuse, in the pus of osteo-myelitis, but had been unable to reproduce these organisms by inoculation. The same parasites were also found in the pus of boils and phlegmonous abscesses, and they could not, therefore, be regarded as the specific agents in the production of osteo-myelitis. The identity of the various kinds of microbes was shown by a personal experience of M. Garré, who nearly lost his life from the effects of an immense carbuncle of the arm caused by inoculation with the microbe of the osteo-myelitis.

Anomaly of the Arch of the Aorta.

In the *Med. Press*, April 8, Dr. M'ARDLE describes this case. The branches derived from the transverse portion from right to left were—right carotid, left carotid, left vertebral, left subclavian, and right subclavian. The only ones having a peculiar course were the right carotid and right subclavian. The former at its origin was somewhat to the left of the trachea. After ascending for half an inch it passed directly to the right, in front of the sixth and seventh rings of trachea, and then upwards on the right side of that structure. The subclavian came off from the posterior aspect of the arch on a level with the remains of the ductus arteriosus; thence it passed in from off second and third dorsal vertebra, and behind trachea and œsophagus, so that these structures were compressed between it and the foregoing vessel. The only other peculiarity of this trunk was its cone-shaped origin, where it was at least half as large as the aorta. It diminished to the normal size before giving off a single branch.

Bones in Testis and Epididymis.

To the Pathological Society of London (April 7, 1885), Dr. PARRY PRICE showed a specimen of osseous growth in the testis and epididymis, from a man aged between 50 and 60. The patient was admitted into Guy's Hospital in a semi-conscious state, and shortly died. The necropsy showed cirrhosis of the liver, granular kidney, cystitis, and two strictures of the urethra. In the testis and epididymis on one side was a bony mass. The testis did not appear to contain any healthy glandular tissue; no cartilage was anywhere found. He thought the formation of bone was probably the result of old orchitis and epididymitis. The man was believed to have begotten children. Mr. Alban Doran inquired whether Dr. Price saw any reason for believing that the tumor was of a dermoid nature. From the account given, this did not appear probable, but it was not impossible. Dermoid tumors of the testicle were very different from dermoid tumors of the ovary. Dr. Parry Price said there was no increase in bulk, and he had seen no evidence of a dermoid origin.

Adenoma of the Liver in an Infant.

From the *Wien. Med. Woch.* No. 43, 1884, we learn that a remarkable instance of this rare disease is found in the yearly report of the St. Joseph Children's

Hospital in Vienna. A female child, twenty months old, had suffered for three months with loss of appetite, emaciation, and swelling of the abdomen. The right side of the abdomen was occupied by a tumor reaching from the sixth rib to the iliac fossa, and on a line with the umbilicus from the linea alba to the vertebral column. Palpation showed elevations over the surface of the liver from the size of a horse-chestnut to that of a child's fist. They appeared soft when pressed against the resilient liver. There was also enlargement of the spleen, and the urine showed albumen. At the autopsy, the liver was found to weigh over three pounds. Its surface was covered with knobby tumors of various sizes. Section showed the liver substance to be entirely replaced, with exception of its periphery, by a soft yellow mass sprinkled with numerous hæmorrhagic points. It was separated from the resistant liver tissue by a capsule. Connective tissue septa ran through the mass, indicating that it had been formed from a number of confluent tumors. There were, besides this large mass, tumors from the size of a pea to that of a walnut scattered over the periphery. Some were so soft that they almost fluctuated. Careful microscopic examination showed the growth to be an atypical adenoma.

Infective Tetanus.

The *London Med. Record*, April 15th, says that HERR A. NICOLAÏER communicates to the *Deutsche Med. Wochensch.* for December 25, some observations which he has made in the Hygienic Institute at Göttingen on an infectious variety of tetanus. He found that he could produce a peculiar and unvarying succession of symptoms by inoculating mice and rabbits with small pellets of earth taken from particular situations, which he found, by microscopic examination, to contain a fine thread-like bacillus. The course of symptoms was in all cases the same; an incubation of from $1\frac{1}{2}$ to $2\frac{1}{2}$ days in mice, 4 to 5 days in rabbits, followed by stiffness attacking first one extremity and then another, beginning with the one nearest the site of the inoculation, and spreading over the body until opisthotonos was induced. Death occurred within twenty-four hours in mice, after about two days in rabbits. The same symptoms, only more rapid and energetic, ensued on inoculation with pus taken from an inoculated animal, or with any portion of such animal's body, and it could also be induced by the bacillus, after cultivation in suitable fluids. Herr Nicolaïer came, therefore, to the conclusion that a bacillus exists in some soils, which induces tetanus when introduced into the bodies of animals; and he throws out the suggestion that its accidental presence in wounds may be the cause of some cases of tetanus in man.

The Cause of Increased Secretion of Urine with Contracted Kidney.

The *St. Louis Courier of Medicine*, May 1885, says: Hypertrophy of the heart, which may be found accompanying the contracted kidney, has been naturally explained by the supposition that increased cardiac energy is required to force the blood in sufficient volume through the diminished renal circulation. Prof. ROSEBACH, of Jena (*Berlin. Klin. Wochenschrift*, No. 3, 1885) thinks the phenomenon of hypertrophy does not admit of this simple explanation, since in a series of experiments with the use of nitro-glycerine, which notably diminished

the blood pressure, he found that not only no disadvantage resulted in chronic nephritis (stage of contracted kidney), but positive benefit. Even when the remedy is given hourly, not only is the amount of urine increased, but also there is a marked improvement of the general condition, and of a series of severe symptoms on the part of the eye and chest—retinitis, asthma. Nitro-glycerine causes temporary headache, but the system becomes accustomed to the drug in the course of a few days.

From these observations the professor concludes that the augmented urinary secretion in case of contracted kidney depends upon other causes than the high blood pressure: possibly it is due to more rapid transudation in the renal capillaries. Also, the high blood pressure probably is in part responsible for the severe symptoms of contracted kidney, retinitis, asthma, etc. Finally, nitro-glycerine is an excellent drug in such cases, as it prolongs life and relieves distressing symptoms.

Great Hypertrophy of the Heart.

Before the Brooklyn Pathological Society (*N. Y. Med. Jour.*, March 21), Dr. L. E. TIERSTE read the history of the case of a cook, thirty-eight years old, who, ten years before his admission into St. Mary's Hospital, had a severe attack of rheumatism, which was followed by frequent attacks of dyspnoea. For the past eight years he had had rheumatism often, but not severely, and he had never regained his original health. He had become addicted to the excessive use of malt liquors, suffered from ascites and oedema of the limbs, and for some time had passed too little urine. When he was admitted, his abdomen was greatly distended with fluid, his limbs were swollen, and he had the characteristic appearance of chronic Bright's disease. The urine contained about one-fourth its bulk of albumen. Four months before his admission he had contracted syphilis. He was given the "mixed treatment," also infusion of digitalis and acetate of potassium, and his bowels were kept free by the frequent administration of pulvis purgans. This treatment improved his general condition and mitigated the symptoms. There were very loud murmurs, indicative of both mitral and aortic stenosis and regurgitation, and the cardiac pulsations could be felt with the hand on any part of the chest. He continued to improve for over three months; then the abdomen began to enlarge again, and in September it was necessary to draw off the fluid. After about three weeks of comfort he was suddenly seized with violent dyspnoea, which was relieved in a short time, so that he passed a quiet night; but a second attack, the next day, ended in his death. (Oedema of the lungs, enlargement of the liver, and interstitial change in the kidneys were found, and the heart was enormously hypertrophied, weighing over two pounds.

The Pathology of Ether Narcosis.

To the New York Pathological Society (May 13), Dr. R. W. AMIDON presented the viscera of a cat dead from inhalation of ether. They showed congestion of the abdominal viscera, and over-distension of the right side of the heart, while the left contained no blood. It had been stated that death from ether narcosis was due to paralysis of the heart, but Dr. Amidon thought this case plainly

showed that such was not the case, for the right auricle could still be made to contract, five hours after death. The real cause of death was respiratory failure. This pointed to the means of resuscitation in such cases, namely, artificial respiration, atropine, and, if necessary, venesection.

Dr. Janeway thought the usual cause of death during etherization in the human subject was obstruction to the trachea by vomited food. He had several times aspirated the right side of the heart in congestion of that side of the organ after contraction had ceased, but had not yet succeeded in reviving the patient.

The President had brought on respiration in one case of obstruction to the larynx from a blood-clot fifteen minutes after respiration had ceased.

Dr. Gerster had lost one patient during etherization, artificial respiration proving of no avail. Previous to the operation, which was for goitre, there had been marked dyspnœa. At the autopsy, catarrhal disease of the lungs and disease of the heart were found. He had resuscitated one patient whose heart and respiratory organs had ceased to act on the admission of air into the pleural cavity; Silvester's method caused the heart to beat after four minutes by the watch, and respiration commenced three minutes later.

Rupture of the Heart.

DR. H. NELSON HARDY thus writes in the *British Medical Journal*, April 4: Cases of spontaneous rupture of the heart in young persons are sufficiently rare to deserve recording. In the following case, the patient, a young woman, aged 19, had been apparently healthy when she went to bed on the night before her death. She had had an attack of rheumatic fever when 15 years old, but had not lately complained of feeling ill. She had no fainting attacks, nor was there any arcus senilis present. A slight loss of memory had been noticed quite recently.

On March 17th, 1885, a little before 7 a. m., I was sent for to see the patient, who was said to be dying. I found her lying in bed on her back, insensible, almost pulseless, her eyes closed, and pupils widely dilated. In a quarter of an hour after my arrival, the heart had ceased to beat.

On March 18th, thirty-two hours after death, the necropsy was made. The body was well nourished, and there were no marks of violence. The membranes of brain were adherent to the skull-cap; the brain substance was healthy; and there were between one to two teaspoonfuls of serum in each lateral ventricle. On opening the pericardium, there was seen on the anterior surface, near the apex, a slit fully one inch and a half long, which led into the left ventricle, and extended irregularly upwards towards the septum. Slight pressure on the heart caused fluid blood to pour out through this opening into the pericardium, in which there was previously about an ounce of colored serum. Several of the chordæ tendinæ were also found ruptured, and the aortic valves were incompetent through old adhesions. The lungs were congested, but not diseased; the liver was adherent to the diaphragm; the stomach was healthy, and contained partially digested food; the other organs were healthy, and the uterus unimpregnated.

The special points of interest in the case are the youth of the patient, and the almost total absence of any indication, during life, of fatty degeneration.

Vena Azygos Major Ascending on the Left Side, and the Bearing of this Anomaly on the Development of the Azygos Blood-Vessels.

In the *Brit. Med. Jour.*, April 25, Dr. Brooks says that the case occurred in a male subject, and appeared to be a transposition, from right to left, of the normal arrangement. The vein ascended on the left side of the bodies of the dorsal vertebræ, receiving the left intercostal veins, with the exception of the first and second, and also a branch from the right side, which entered it at the level of the eighth dorsal vertebra, and was formed by the confluence of two veins, which lay on the right side of the bodies of the vertebræ; the superior of these two received the sixth, seventh, and eighth intercostal veins; the inferior collected the blood from the ninth, tenth, and eleventh intercostal spaces. The left azygos, thus formed, attained to the size of an ordinary azygos major; it crossed the junction of the transverse and descending portions of the aortic arch, and opened into the left innominate vein. A small vein opened in the ordinary position of the (right) azygos major; it was formed by the confluence of four intercostal veins, but the trunk lay not in the ordinary position of the azygos major on the bodies of the vertebræ, but on the ribs external to the gangliated cord of the sympathetic. This peculiar position was interpreted as representing a larger portion of the posterior cardinal vein persisting than usual. A remarkable bend in the course of the left azygos, whereby a portion crossed the necks of the tenth and eleventh ribs, was explained in the same way. Reference is made to the symmetrical condition of the azygos veins in the embryo as affording a ready explanation of the transposition—the right, instead of the left, azygos system having been broken up.

Athetosis Before and After Hemiplegia.

The *Lancet* (April 4, 1885), says: The relations of convulsion to paralysis form one of the most interesting chapters in the pathology of the nervous system. The popular mind sees a wonderful contrast between convulsion and paralysis, and with good reason. Yet there are many considerations which tend to diminish the contrast. The causes which give rise to involuntary movements need only to be intensified in order that paralysis may result. A moderate defect in the nutrition of nervous tissues subserving motor functions may be outwardly expressed as epilepsy, chorea, or some other form of involuntary movement; whilst a more marked defect in the nutrition would be followed by paralysis. It is true that in many instances genuine irritation calls forth some form of tonic or clonic spasm, which may end in paralysis from exhaustion consequent on the excessive irritation. Perhaps the majority of cases of Jacksonian epilepsy which are followed by paresis may be thus explained, though it is highly probable that a condition equivalent to irritation may be set up as the result of a mere loss of nutrition. Paralysis which is not caused too rapidly is generally preceded by some form of spontaneous movement. At a recent meeting of the Société de Médecine et de Chirurgie of Bordeaux, M. DURAND related the case of a man aged sixty-nine who was one day seized with severe epistaxis. The next day a tremor exactly similar to that seen in cases of post-hemiplegic athetosis was observed in the left arm and leg; at least so states the report from which we

gather this account. There was no loss of consciousness. A day later the convulsions were replaced by hemiplegia. On the following day the movements had returned, and hemianæsthesia was detected in the convulsed members. The further history of the case was not related, and the description given of the movements is inadequate for a proper recognition of their nature; nevertheless the case is an interesting one.

Rupture of the Aorta.

To the Pathological Society of London (April 7th), Dr. CHARLEWOOD TURNER showed this specimen, taken from the body of a man, aged 64, who came to the hospital suffering from syncope, and died next day from that cause. He had suffered from palpitation and shortness of breath on exertion. At the *post-mortem* examination there was extensive rupture of first part of arch of aorta, a longitudinal rent older and a more recent transverse rent above this. The latter rent reached to the innominate artery. A dissecting aneurism had been formed in connection with the older rent, the walls of which showed extravasated blood. Blood had also been poured into the pericardium, and at the roots of the lungs. The heart was somewhat hypertrophied, but there was little valvular disease. The kidneys were granular, and the cerebral vessels were atheromatous. The symptoms had clearly been due to the dissecting aneurism, which was the cause of the final rupture. Dr. Peacock had described T-shaped ruptures in similar cases. The rupture had occurred at the spot where the aorta lost the support of the pericardial sheath. He also showed a heart and thoracic aorta taken from the body of a woman, aged 30, who had been a prostitute, and who died suddenly without premonitory symptoms from hemorrhage into the pericardium. There was a perforation of the aorta near the base of the heart; the arch of the aorta showed extensive disease of the inner coat, and less of the other coats. There was much nuclear exudation in the intima, and in the other coats there was massing of leucocytes along the vessels.

Dr. Norman Moore called attention to the hypertrophy of the heart. He asked whether the joints had been examined. In cases of aneurism of the aorta with chronic interstitial nephritis he had almost invariably found gout, and he mentioned a typical instance he had lately seen. In reply to a question by the President, he added that he had often found interstitial nephritis by itself, without gout.

Dr. Turner could not give any information as to the joints, but he had attached much importance in his paper to the high arterial tension.

Epithelioma Beginning in the Soft Parts and Finally Involving the Tibia.

To the New York Pathological Society (*N. Y. Med. Jour.*) Dr. G. F. SHRADY presented a leg which he had recently removed for malignant disease by supra-condylar amputation of the thigh. The patient had suffered for forty years with a sore on the leg, probably originating in an injury. A year after its appearance a piece of the tibia exfoliated. About two years ago pain was so severe that he had to resort to crutches, and about seven months ago a false point of motion was observed, showing that the tibia was breaking down. Dr. Shraday saw the

patient a week ago, when it was evident there was malignant disease of some form, but a positive diagnosis was not made until after the amputation, when Dr. W. H. Porter found it to be epithelioma. The infiltration with cancerous cells did not extend as high as the point of amputation, nor down to the foot. It would seem that no treatment had been employed during the long continuance of the disease. Dr. Shradý had no knowledge of another case in which epithelioma had progressed and involved the bone secondarily.

Dr. Porter said Billroth spoke of epithelioma developing in the integument, gradually extending, and involving the bone secondarily.

Dr. Ripley was not sure that had an operation been done earlier the patient might have escaped epithelioma. Many men had sores for forty years and did not get epithelioma; many men had epithelioma without having had a sore for forty years; and it was possible for a man to have epithelioma for forty years.

Dr. Shradý agreed with Dr. Ripley; but while it was possible, it was not probable that his doubts would be confirmed in practice. The clinical history seemed to show very plainly that until a comparatively recent time there had been a benign sore, which had become malignant.

The President thought malignant disease often resulted from irritation, with or without an hereditary tendency.

Dr. Porter said that when he and Dr. Satterthwaite were preparing their report upon cancer, the conclusion to which they came was, that in the majority of cases its origin was in long-continued irritation of some kind.

Atrophy of Muscles in Pleurisy.

The *Lancet*, May 9, says: When synovitis attacks a joint, the muscles which effect the movements of the articulation are prone to waste in a rather rapid manner. The muscular atrophy cannot reasonably be explained on the ground that the muscles are not used, for the atrophy is one which recalls the wasting of muscle seen in cases of infantile palsy, not only in the rapidity with which it occurs, but also in the behavior of the affected muscles to electrical examination. The wasting of the muscles of the shoulder and thorax on that side which has been the seat of pleurisy seems to us to belong to the same category of phenomena as the wasting of muscle from joint diseases; and although the comparison is a trite one, yet we may remember that serous and synovial membranes are regarded as analogous structures. The subject of muscular atrophy resulting from inflammation of tissues in the neighborhood of the muscles is one deserving much attention. The most probable explanation is that the abnormal excitations proceeding from the inflamed tissues along the sensory nerves have a direct influence on the motor nerve-cells controlling the nutrition of the muscles concerned; the bones may waste as the result of a similar "reflex" influence. A valuable paper on the atrophy of muscles of the thorax and shoulder in pleurisy was contributed to the Société Médicale des Hôpitaux on April 10th (see the *Bulletins et Mémoires de la Société*, etc., April 22d). The author of the paper, M. DESPLATS, of Lille, contends that the muscular atrophy is rapid and frequent in the subjects of pleurisy, that the atrophy plays an important part in the deformities of the skeleton resulting from pleurisy, and that the atrophy is the indirect cause of tuberculosis of the lungs. He recommends that the atrophy

should be prevented from coming on by early surgical treatment of any pleuritic effusion, and that measures should be adopted for arresting or combating the atrophy by the use of general and local stimulants, and more especially by faradization, respiratory gymnastics, compressed air, and so forth.

Assimilation in Infants.

The *London Med. Record*, April 15, 1885, tells us that CAMERON contributes to the *Journal für Kinderheilkunde* (Band xxii., Heft 2) a thoughtful article on this subject. He points out that, in comparing the weight of an infant at different times, there are many fallacies to be guarded against. First, the intestinal contents vary very much, and must be allowed for. Secondly, the interstitial water is subject to great fluctuations; it may be much below normal, owing to a single large watery evacuation, or, on the other hand, much increased by a copious drink. Further, the deposition of fat should not be regarded as true growth. A child's weight, as might be expected, is lowest in the morning, fasting; it afterward gradually increases, and reaches its maximum in the evening after the last meal. It must not be forgotten that a very slight cause is sufficient to diminish the weight of an infant at the breast; such as prolonged exposure in the open air, slight malaise, teething, and any digestive disturbance such as that produced by the menstruation of the mother. It follows from the foregoing that all comparative weights, taken from a physiological standpoint, are unsatisfactory, unless the following conditions be observed. (a) The child must be in perfect health; (b) the weighings must extend over a considerable period—not less than four weeks; (c) weight should be the average of several consecutive days; (d) the child must always be weighed the first thing in the morning, fasting.

The remainder of the paper is occupied by tables compiled from his own and the published observations of others. Taking Pfeiffer's milk analysis as a standard the following conclusions are deducted: One thousand grammes of human milk of the second month contain about 20 grains of albumen, from the assimilation of which, 50 grammes of body-substance are formed, which substance probably contains 12 grammes of albumen. Thus 8 grammes, with 1.3 of nitrogen must be decomposed. Now, since of the 1,000 grammes of milk, 700 appear as urine and 7 grammes as fæces, and the latter contain about 0.1 of nitrogen, there would remain about 1.2 of nitrogen for the urine, which seems a probable figure, and does away with the so-called deficit in the nitrogen excreted by infants at the breast.

The Cerebral Arteries in States of Congestion.

To the Pathological Society of London (April 21), Dr. HANDFIELD JONES read a paper in which the principal points adverted to were as follows:

1. The presence frequently, but by no means always, of elongated corpuscles in small or large groups within the channels of the minute vessels. They often lie longitudinally, but often also quite irregularly. They are apt to escape from broken ends. Their origin may possibly be from the endothelium of the arterioles, or from the muscle nuclei, which they greatly resemble. The latter seems most probable, as it is not conceivable that endothelial particles, which do not separate till after death, could make their way onwards when the circulation

had ceased. That they are not shed *in situ* results from their being so frequently absent.

(2) The muscle-nuclei not rarely undergo more or less hypertrophy, causing considerable thickening of the wall of the vessel. This is especially evident in the marginal corpuscles of a flattened arteriole, and in the precapillaries, which are often crowded with corpuscles. These seem to get detached, and to make their way on into the capillaries. The muscular fibres do not enlarge, only the nuclei. The change affects single arteries here and there, and is not general. For brevity's sake it may be termed *corpusculatation*.

(3) Vessels are occasionally observed, which appear to have lost their corpuscles in great measure, and look more or less fluffy and indistinct. This change is perhaps consecutive to a lavish diapedesis. It may be termed *denudation*.

(4) In meningitis and allied conditions, small vessels may be seen resembling a strand of soft granulous matter, the surface of which is beset with corpuscles, the adventitia having completely disappeared.

(5) The corpuscles inside and outside the vessels seem to be more or less amœboid, they present various shapes, and sometimes give off filamentary processes. They are seen occasionally projecting more or less from the outer surface as if *in transitu*.

(6) Films of unstained protoplasm are seen now and then in contact with the wall of a vessel, enveloping, it may be, a stained corpuscle or two.

(7) Red corpuscles are rarely present in the vascular channels; when they are, the carmine stain is changed to a full yellow.

(8) The walls of capillaries containing an abundance of leucocytes are occasionally indistinct, as if tending to disappear.

Cancer of the Right Kidney; Congenital Absence of the Left.

MR. J. W. BATTERSHAM reports this interesting case in the *Lancet*, April 11. George W——, aged forty-eight, a painter, was admitted on December 11, 1884. The patient was a sallow, delicate-looking man, and suffered from dyspeptic symptoms. He stated that for fifteen years he had experienced pain in the right loin, that eighteen months ago he first noticed blood in his urine, and that five months ago his urine was again bloody, this time for three days, but since then he had had several attacks of hæmaturia at irregular intervals. He had lost flesh considerably during the last eighteen months. On the day of admission the urine contained a large quantity of blood and disorganized clot. No cells likely to be of malignant origin were found on microscopical examination of the urine. On passing a sound, into the bladder no stone or tumor could be detected, nor was there any blood in the urine after the sounding. Examination of the abdomen revealed a smooth ovoid elastic tumor in the right lumbar and iliac regions, extending slightly into the umbilical region; its rounded margin could be distinctly felt on three sides, but above it appeared continuous with the liver at the level of the ninth rib. The tumor followed the descent of the liver and diaphragm on deep inspiration, and receded with them during expiration. The manipulation of the tumor was followed by the appearance of a little blood in the urine. The question of operation was entertained, but the patient was unwilling

to submit to any operative interference. Meanwhile he caught cold, and died of broncho-pneumonia.

Post-mortem examination showed the right kidney symmetrically enlarged, but presenting several small hemispherical bosses on its surface. It measured six inches by four inches and weighed twenty-five ounces. On section it was found to be infiltrated by a mass of encephaloid cancer. It contained no calculi or other concretions. Though a careful and prolonged search was made, no vestige of the left kidney and ureter could be discovered; nor could any trace of the left renal vessels be found, except a slight dimpling of the inner surface of the aorta at the spot where the renal artery would normally have been given off. On further dissection, it was found that the left vesicula seminalis was also absent, although the vas deferens pursued a perfectly normal course. Both testicles and both adrenal bodies were present and normal in appearance. No other abnormalities than those above described were discovered. There were no secondary deposits of the malignant growth. There were no adhesions between the liver and kidney, nor any apparent deficiency of perinephritic fat by which the mobility of the renal tumor might have been accounted for.

Remarks by Mr. Manby. The mobility of the tumor was a perplexing element in the diagnosis of the case. Dr. W. Roberts states, with reference to renal cancer that the "fixity of the growth is usually a marked characteristic"; and had there been no hæmaturia, as happens (according to the above authority) in nearly half the cases of cancer of the kidney, the tumour would in all probability have been diagnosed as of hepatic origin. The absence of any other ascertainable cause of hæmaturia, and the appearance of blood in the urine immediately after manipulation of the abdominal growth, indicated, however, the nature of the case. The presence of one kidney only, illustrates one of the dangers of nephrectomy—viz., that of removing an only (or the only serviceable) kidney—an error which should be avoided by the use of Mr. Davy's rectal lever as a diagnostic instrument. By compression per rectum of the ureter of the kidney it is proposed to remove the flow of urine from the other ureter into a previously emptied bladder, as is readily demonstrable. This means of diagnosis has been successfully employed by Mr. Davy and others; and I have satisfied myself, by experiments on the cadaver, that the rectal lever will effectually control the passage of fluid along the ureter.

II. PHYSICS, BOTANY, CHEMISTRY, AND TOXICOLOGY.

Strychnia Poisoning.

In the *Med. Press*, April 22d, Dr. WILLIAM DONOVAN says: Saw Mrs. C——, a married woman, on the 9th of February. She was stated to have taken the contents of a threepenny packet of Battle's rat poison some half an hour previously. When I arrived she was perspiring profusely, and was perfectly limp, and appeared to have lost all control over her muscular system. When lifted up, she simply sank down again like an empty sack. Her features expressed great anxiety, and a slight general twitching seemed to have commenced. I was informed that an emetic had been administered. Seeing the gravity of the case, and fearing to aggravate the increasing muscular irritation by further attempts at emesis, I ordered a draught containing forty grains of chloral to be given at once, to be followed in half an hour by another of thirty grains, if the twitching continued. On calling about two hours afterwards, I found it had been necessary to give the second dose. This had the desired effect, and the woman passed a fairly good night. Next morning the only remaining effects were great muscular pain and prostration, which passed away in a few days. I may mention that the woman was three months advanced in her fifth pregnancy.

Hydrobromic Acid.

FREDERICK ROHNERT thus writes in the *Michigan Drug News*: Hydrobromic acid is described in the new Pharmacopœia as a clear, colorless, odorless ten per cent. solution of the absolute hydrobromic acid, but no process is given for its preparation. There are quite a number of them used, the principal and easiest one being the decomposition of bromide of potassium with tartaric acid; but as this leaves an excess of either the salt or the acid, and some bitartrate of potassium in solution, it is probably not the best. The others are not easily prepared by the pharmacist, as they require distillation. The process I recommend is from the bromine direct, by passing through it sulphuretted hydrogen. I take an ounce of bromine, dissolve it in about two ounces of sulphide of carbon, and add an equal amount of water. The sulphuretted hydrogen as generated is passed through a wash-bottle and into the bromine solution, the sulphuretted hydrogen decomposing; the sulphur as it separates is dissolved in the sulphide of carbon, while the hydrobromic acid is taken up by the water. The liquids are then separated, the watery solution transferred to a porcelain capsule, heated over a water-bath to drive off all odor of sulphide of carbon, filtered, tested with solution of soda, and diluted to strength of ten per cent. To convert the bromide into

hydrobromic acid by this process, requires from a half-hour to one hour, according to the rapidity with which the sulphuretted hydrogen is generated.

The Toxic Properties of Metals.

The *British Medical Journal*, April 18, tells us that M. RABUTEAU opened a debate at a recent meeting of the Biological Society of Paris, on the toxic properties of metals. Some time since, M. Rabuteau asserted that these properties are in proportion to their atomic weight and their specific heat. Lithium is an exception; its atomic weight is very low, yet it kills in small doses. He now maintains that the law of the toxicity of metals holds good, notwithstanding the exception furnished by lithium; that metallic lithium does not kill by its toxic effect, but by its convulsing action on the nervous system. Toxic metals destroy the functional activity of the nervous system, whereas lithium acts on it as a stimulus, and kills slowly instead of rapidly. The specific heat of lithium explains its action. The action of most bodies is ruled by the relation existing between their component atoms and the molecules of the organism. When the atoms preponderate, the nervous system is negatived; when the molecules preponderate, the nervous system is stimulated. The specific heat of strychnia, when accurately calculated, is found to be equal to that of lithium; both provoke death by the same process. M. D'Arsonval observed that M. Rabuteau's communication argued that the toxicity of metals is equal to the energy they can expend. In electricity this law is incorrect; a given quantity of energy may produce quite different results. It remains to ascertain whether this comparison can be made. M. Grimaux observed that, according to M. Rabuteau's method of calculating, the specific heat of quinine and strychnia is equal; but there is a wide difference in their toxic properties.

Strangulation.

CULLINGWORTH (*Med. Chron.*, vol. i., p. 577) has placed on record an unusual case of strangulation, effected by means of the thumb and fingers applied at the sides of the neck, no mark of violence being found at the front. The necropsy on the deceased woman revealed a bruise, with extravasation, immediately beneath the lobule of the left ear, and another, also accompanied with extravasation, three-quarters of an inch below the lobule of the right ear. Corresponding to this latter bruise, a second infusion of blood had taken place into the deeper tissues, half an inch beneath the surface. Other bruises were found over each eyebrow, at the back of the right wrist, over the knuckle of the left little finger, at the inner side of the left elbow, and at each angle of the mouth. Within the mouth, at the line of reflection of the lower lip on the left side, was a contused and lacerated wound opposite the jagged stump of the canine tooth; and exactly opposite to this, at the line of reflection of the upper lip on the same side, there was another smaller bruise, accompanied with extravasation. The tongue was bruised on the right side, as though it had been caught between the teeth. The left lateral upper incisor tooth was loosened, the torn gum and effused blood showing that the injury was recent. The blood generally was dark and fluid. The brain and membranes were intensely hyperæmic, the blood pouring out in

considerable quantity on removing the calvarium. There were no marks of injury to the throat, either externally or internally. The lungs were congested, and there were patches of emphysema on their surface. The heart contained a quantity of dark fluid blood. The abdominal viscera were not notably congested. Urine and fæces had escaped.

The Sting of a Scorpion.

Dr. B. F. HAYWARD thus writes in the *N. Y. Med. Jour.*, March 14, 1885: The sting of a scorpion has been regarded by the laity at large and some of the profession as being necessarily fatal. But I had the opportunity a few months since of treating a case which proved to be contrary to the general impression. The case is as follows:

The stewardess on board one of the Southern steamers was stung on the little toe of the left foot. Five minutes after it occurred I had the patient under treatment. On examination, I found a white surface of about the size of a half-dime. In the center was a little red spot, which seemed to penetrate to the bone. At first there was pain, accompanied by swelling of the foot and ankle. She complained of dullness extending first to the ankle, thence to the knee, and afterward to the hip. The limb was cold, and of a dark color, the circulation being impaired, and it seemed to me as though the blood coagulated in the veins. The pulse was rapid and feeble, the patient restless and fretful, the face pale, with dark lines under the eyes. In a few moments there was a red streak which commenced at the little toe and gradually extended to the hip.

I made a cross-incision over the seat of the wound down to the bone, and allowed it to bleed freely, and then applied hot flaxseed poultices.

Internally, I gave whisky and the aromatic spirits of ammonia in the proportion of two-thirds and one-third, giving ʒij every fifteen minutes until the patient had taken ʒvij , and then, as the stimulants commenced to have effect, it was decreased gradually. The next morning the only symptom present was the numbness and heaviness of the entire limb, which disappeared during the day.

I have made inquiries among the natives along the Gulf coast of Mexico, and have been unable to learn of an authentic case of death from a similar occurrence.

Three Cases of Poisoning by "Hellebore" Powder.

Dr. J. T. KNIGHT thus writes in the *Brit. Med. Jour.*, April 11, 1885: As an instance and exposure of the credulity of the present generation with regard to quackery, the following account may be of slight interest:

At about 9:30 p. m. on Saturday, February 28th, a messenger requested me to see three people—R. C., his wife, and a lodger—who, he asserted, were dangerously ill from having taken some poison, a sample of which he brought with him. These people lived two and a half miles from my residence; and on my arrival, a little after 10 p. m., I found R. C., the husband, aged 61, looking very pale, prostrated, his pulse very feeble; pupils normal. He stated, in feeble tones, that he felt perfectly helpless and very cold, but somewhat better than he had been. The wife, aged 60, who had been desperately sick and purged, was apparently going on all right, and said she was feeling much better than she had been. The lodger, aged 65, was very ill; he looked pinched and blue with cold, and had been

sick and purged. Mustard and water had been administered to all three, with good effect.

The wife informed me that they all partook of the powder at about 7. p. m., and that, a few minutes after, her tongue "felt funny;" she was then sick and purged, had pain in the bowels; her hands, and subsequently the whole body, became cold and trembling. As far as I could ascertain, I should say that each of them took about a scruple of the drug.

From what I saw, I concluded that the quantity of poison taken had physiologically exhausted its effects, and that there was no necessity to administer emetics or use the stomach-pump, which would only increase the prostration. I therefore ordered hot bottles to be applied to the extremities, and brandy and hot water to be administered to each. All made a rapid recovery.

I was told by R. C. that the old lodger had recommended this hellebore powder for the "wind," the said lodger having gained considerable confidence by informing them that his "faythur was a bit uv a doctur loike."

The Proximate Principles of Ergot.

The *Western Druggist*, March 16th, tells us that this was the subject of investigation at the laboratory for experimental pharmacology at Strassburg, by Dr. KOBERT, with the result of recognizing three physiologically active organic principles.

Ergotinic acid, the chief constituent of sclerotic acid, as formerly prepared, is obtained by precipitating a watery extract of ergot with lead subacetate and ammonia; the precipitate, after being thoroughly washed, is decomposed with hydrosulphuric acid, the clear filtrate evaporated in vacuo, precipitated with absolute alcohol and the yellowish white substance washed and dried over sulphuric acid. Ergotinic acid constitutes a very large portion of Bonjean's ergotin, is hygroscopic, of acid reaction and contains nitrogen. Physiologically it is without any contractile effects upon the uterus.

Sphacelinic acid is obtained by exhausting ergot with alcohol, which has been previously extracted with acidulated water and deprived of oil by ether. The coloring matter is precipitated from the alcoholic liquid by a hot solution of baryta, filtered and freed from barium by sulphuric acid and the slight excess of acid removed by oxide of lead. The filtrate is evaporated, and the brown resin remaining freed from accompanying fat, which was previously saponified by solution of soda with ether, the latter leaving upon evaporation a whitish powder. This residue is dissolved in a solution of sodium carbonate in excess, by heat, filtered, and the sphacelinic acid precipitated by the addition of hydrochloric acid. This body is insoluble in water and dilute acids, but soluble in alcohol, very prone to decompose, and contains no nitrogen. It appears to increase the blood pressure, and to produce copious extravasation of blood in various portions of the body, which often lead to gangrene.

Cornutine, an alkaloid, though not identical with ergotinine of Tanret, is easily soluble in alcohol, and may readily be shaken out from its alkaline aqueous solution by acetic ether. This alkaloid exists in very minute quantities, and produces in certain animals a peculiar stiffness or rigidity of the muscles, in larger doses convulsions and movements of the viscera and uterus, which are, however,

different from the peculiar tetanus of ergot itself, and never leads to expulsion of the fœtus. It is, therefore, not the specific principle itself, but its presence in preparations of ergot makes these more active.

Poisoning from Canned Fruits.

In the *Kansas City Med. Index*, March 1885, Dr. L. A. WOHLFARTH thus writes: A short time ago I was called to attend a family, consisting of husband, wife and four children. The woman and three children were sick; they were continuously vomiting; the pulses were below normal, the woman's being below 50; temperature below normal. In some of the vomited matter were small specks of blood. By inquiring into the history of the case I elicited the following: The whole family had enjoyed ordinary good health until that day after dinner, at which the four sick ones had eaten freely of gooseberry pie, made of canned gooseberries; the other two members of the family did not like the pie, and had not eaten any. I gave sub-nitrate of bismuth and morphia to quiet the irritated stomachs, and subsequently stimulants moderately; they all recovered in about three days. The fact that only those who had eaten the gooseberry pie were affected caused me to investigate the pie and a can of gooseberries, which the family had purchased in a store in the city. The pie had the ordinary appearance of well-made pastry; the can of gooseberries, judging by the color and general appearance of the tin, looked quite "aged;" the label, however, was clean and new. As I have read occasionally in the secular and medical press reports of poisoning by canned fruits, I made further inquiries among dealers in this class of goods, and I obtained the information from very reliable sources that it is a common practice of some manufacturers to furnish, on demand, their customers, the grocers, with duplicate labels, and that the old, faded and soiled labels are replaced by new ones, and thus old goods are sold for fresh or new. How much this class of goods is affected by time, change of temperature, etc., I do not know; but it seems to me that age certainly will not improve their quality, especially if they are on the shelves of grocery stores, exposed to a summer heat of over 100° F. in the shade, alternated by 10° to 20° F. below zero in the winter; and it seems to me that it is a matter properly belonging to the supervision of State Boards of Health. Supposing that a law could be enacted and enforced, compelling manufacturers of canned goods to stamp into the tin can the year in which the article is put up, would it not protect the people against the practice of having goods two, three or four years old, sold to them for new or fresh?

The Estimation of Urea by Labarraque's Solution.

Dr. A. B. LYONS thus writes in the *Pharmaceutical Record*, May 15: Unquestionably the simplest and most rapid method of estimating urea in the urine is that known as the hypobromite process. Urea is decomposed in an appropriate apparatus, by means of a solution of bromine in excess of caustic soda. The hypobromite solution is unstable, and hence must be freshly prepared when required for use. Physicians find this a very serious drawback to the adoption of a method of ureometry otherwise so well adapted to their needs. They do not like to handle bromine, and the druggists, who are usually very willing to supply

them with any reagents they want, make excuses when asked to prepare this mixture.

Dr. Squibb has endeavored to remove the difficulty by substituting for the hypobromite solution the U. S. P. liquor sodæ chlorinatæ, and furnishes a simplified form of apparatus in which this may be used. It is quite possible that with some samples of this solution satisfactory results can be obtained, but my own experience has been that the quantity of gas evolved has been uniformly less than it should be. A specimen of urine, which showed by the hypobromite process two per cent of urea, would yield with the hypochlorite solution gas corresponding with only 1.6 per cent or less. I have not had the time to investigate the cause of this difference. The gas is evolved much more slowly when the hypochlorite is used, and the reaction does not appear to be complete even when a large excess of the reagent is employed.

I find, however, that there is a way to overcome the difficulty, and in fact to *change the hypochlorite into hypobromite* extemporaneously. Simply add to the solution chlorinated soda, of which 25 c. c. should be sufficient to decompose the urea in 4 c. c. of urine, 5 c. c. of a 20 per cent solution of potassium bromide, a few minutes before the urine is introduced. With some specimens of the solution of chlorinated soda I find it necessary to add also a little caustic soda—2 to 5 c. c. of a 10 per cent solution—to insure absorption of all the carbonic anhydride found in the reaction. The solution of chlorinated soda must answer the U. S. Pharmacopœia requirement of containing at least two per cent. of available chlorine. With this modification of Dr. Squibb's plan, I obtain results identical with those reached by the hypobromite process, and as the reagents are easily procurable, there need be no longer any reason why the estimation of urea should present any especial difficulties either to physicians or to those pharmacists who occasionally do any analytical work.

Lime and Lemon Juice.

The *Western Druggist*, March 16th, 1885, says: The fruit from which lime juice is obtained is about one-half the size of the lemon, with a smoother and thinner rind, oval, rounded at the extremities, and of a pale yellow or greenish yellow color. The exterior of the rind possesses a fragrant odor, and a warm, aromatic, slightly bitter taste, somewhat similar to that of the lemon. The fruit, after collection, is taken to the factory, where it is sliced and then squeezed in huge wooden presses, the juice being run into puncheons and quickly bunged up. This is a more important point in preparing the juice in a tropical climate, for if left exposed it would rapidly decompose. None but the choicest fruit should be used, and only about two-thirds the juice pressed out, thus insuring greater freedom from mucilaginous and pulpy matter. The further pressings, together with the juice of the unsound fruit, are evaporated to the consistence of molasses, and shipped away for the manufacture of citric acid.

Lime juice is very variable as to quality, which depends upon the method of extraction, and the quality of the fruit. When fresh and sound it is sharply acid, with a peculiar refreshing and grateful aroma. It contains citric acid, gum, sugar, albumen, extractive matter, inorganic salts, and water. The most important and valuable constituent is the citric acid. There is only a mere trace of

sugar, while the quantity of gum and albumen is much less than that contained in lemon juice, on which account some claim it is much less liable to fermentation and decomposition than the latter. The quantity of inorganic salts contained in lime juice is about the same, and is also of the same nature as that obtained from lemon juice. According to good authority, a good quality of lime juice should contain not less than 7.25 per cent. of free citric acid.

The preservation of lime and lemon juice is a matter of great importance, and is accomplished in various ways. Experiments have shown that the juice can be preserved without any addition. Again, the employment of bi-sulphite of lime and a certain percentage of alcohol are known to have acted as excellent preservatives. The commercial product, doubtless, is thus manipulated, though not in the least deteriorating its general character.

Lemon juice, owing to the fact that it contains much more sugar and mucilage than lime juice, is more liable to fermentation and decomposition, and the addition of at least one-tenth part of alcohol will act as a preventive. Its clarification tends to remove the fermentive germs, and in this state it should be used in compounding carbonated drinks. Lemon juice is frequently adulterated with water, sugar or gum, and sulphuric or acetic acid. The *modus operandi* is to dilute the genuine juice with water, and then bring up the density with the sugar, or gum, and the percentage of acid with one or the other of the above acids. To guard against the catastrophes invariably following the use of adulterated or inferior grade goods, it is always advisable to purchase of none but reputable houses, whose standing as business men and manufacturers is above reproach. For lime and lemon juice are so often spurious that this conservative course should be pursued, no matter what the price or inducement offered.

Preservation of Cut Flowers.

The *Popular Science News* (May, 1885) says: An important rule, though seldom regarded, is never to cram the vases with flowers; many will last if only they have a large mass of water in the vase, and not too many stalks to feed on the water and pollute it. Vases that hold a large quantity of water are much to be preferred to the spindle-shaped trumpets that are often used. Flat dishes filled with wet sand are also useful for short-stalked or heavy-headed flowers: even partially withered blooms will revive when placed on this cool, moist substance. Moss, though far prettier than sand, is to be avoided, as it so soon smells disagreeably, and always interferes with the scent of the flowers placed in it. When flowers in winter are brought out of warm houses into the dry air of a house, after being exposed on their way, for a shorter or longer time, to the cold outer air, and are put into ice-cold water, no wonder many poor victims succumb to such ill-treatment at once. If, on the other hand, they were put at once into a good large basin of blood-warm water (or even still hotter) till they could be arranged properly, and the water in which they are finally placed be also warm, a great saving in trouble would result.

With regard to plants whose juice or sap is milky, this precaution is invaluable, for this thick, milky sap readily coagulates in the tissues, and prevents the flower drawing up the necessary supplies of water. It is needful, therefore, to prevent this by thinning the sap as much as possible, till it becomes so thin that

it can no longer clot and choke up the passages in the tissues. This can be done by slitting the stem, pulling off the leaves, and then putting the flower in hot water, when so much sap escapes as to render it free from all chance of thus clogging the tissues; and the flower, in consequence, will not flag. Poinsettias, with their showy heads of bracts, are a good example of this class of plant, and, when treated in the manner described, will last for weeks in an ordinary room without becoming unsightly; and without any such preparation, they fade the first evening. *Stephanotis* also is much benefited by the same means, and, with the further help of a drop or two of water in the throat of each flower, will last delightfully.

With some subjects another course of treatment must be adopted; for instance, in the case of flowers that grow only in a cool temperature, and suffer when they get into warm and dry air. In this instance all that we can do is, to lessen evaporation as much as possible, and, when such flowers have hairy stems and leaves, to submerge them for a minute, so that by capillary attraction they may continue to keep themselves moist and cool; but this is dangerous to table-cloths or polished surfaces unless care be taken that the points of the leaves do not hang down. Another means of preventing such delicate and sweet-scented flowers from flagging, is to cut them with several leaves on the stem, and, when the flower-head is placed in water, to allow only this head to remain above the water, while the leaves are entirely submerged: by this means the leaves seem to help to support the flower, which will then last for three days in a fairly cool room. Perhaps no hardy flower succumbs sooner to heat than the Christmas rose. With this it seems that frequent cutting of the stem is of great use; but with all such flowers, by far the best plan is to put them outside, exposed to dew or rain, during the night, when they will regain strength enough to last on for days. All New-Holland plants, and particularly flowering acacias, are benefited wonderfully by this apparent cruelty, and will even stand a slight frost far better than a hot room at night indoors.

Two Cases of Poisoning by Carbonic Oxide; Recovery.

Dr. JAMES MILLAR thus writes in the *Lancet*, March 28th: Early one morning in December last I was hastily summoned to attend two young men several miles in the country, who had been poisoned by coal gas. I could scarcely believe the messenger, but he insisted that such was the case. On my arrival I found two young men lying on the floor, rolled in blankets and packed with hot bottles. A. was of dark complexion, twenty-one years of age; and B. of fair complexion, nineteen years of age. On the previous night a fire composed of coal and coke had been kindled in their bedroom, and they were told not to close the door when they went to bed, because the room would be filled with smoke if they did so. A. went to bed, leaving the door of the room open; but B., having fallen asleep by the fire, rose in a sleepy state and closed the door. Both had been in bed for a considerable time, when the occupants of the next room were awakened by their stertorous breathing. They were unconscious, and had vomited freely during the night. The other inmates of the house had applied friction to the surface of the body, mustard to the legs, and hot bottles all round the body. When considerably shaken B. could speak, but immediately relapsed after giving

an answer to a question. A. had never spoken, and could not be roused, and when I arrived all hope of his recovery had been given up. Both were cold and clammy, the surface of the body pale, and the conjunctivæ and mucous membrane of the mouth, etc., bright red. Both lay with their legs crossed and rigid. A. had his right arm so firmly flexed on his chest that it was almost impossible to unbend it; he was breathing stertorously. The conjunctivæ were insensitive to light and the pupils dilated. Pulse 40 per minute, sluggish, and easily compressible; respiration slow and labored, and he could not be roused. B. had a small quick pulse, no stertorous breathing, pupils contracted. He could be roused for half a minute at a time, but not longer. He then complained of pain in the back and head, and relapsed into his former state.

At first I thought the poisoning must be due to something else; but from minute and careful inquiry, and the appearance of the patients, I was perfectly satisfied as to the cause. What to do had to be decided on at once. Friction and warmth to the surface of the body had already been tried, and were again had recourse to, but without any benefit. Artificial respiration was tried for some time, but had no good effect. A small quantity of brandy was poured into B's mouth, which he swallowed. The muscles of the lower jaw of A. were in a state of clonic spasm. His mouth was opened with difficulty, and a little brandy poured in, which he also swallowed. The brandy caused vomiting in both cases, of which the patients were quite unconscious. The brandy was repeated. Ammonia, strong tea, and other stimulants, had the same effect; they all caused vomiting and produced further depression. The doors and windows had been previously opened, so that there was plenty of fresh air. Venesection might have been done, as some recommend; but I have always failed to see that removing half the quantity of impure water from a vessel makes the remaining half purer. I believe venesection with transfusion would have been of service, but I was not prepared for that single-handed. Seeing carbonic oxide forms such a stable compound with the hæmoglobin of the blood, I thought a direct stimulus to the muscles of respiration might be of service, so with the end of a wet towel I commenced to flap the chest of B., when he soon began to cry out and sit up; this had a beneficial effect. After a further prolongation of the same process on A. there were a few deep inspirations, then he began to strike out in all directions, opened his eyes, sat up, and asked the cause of the disturbance. Both being now perfectly conscious, they were put to bed in another room, and after a few hours' rest awoke with slight headache and feeling a little giddy. Next day they were perfectly well, with the exception of slight pain in the back and legs.

I am sorry my notes of two very interesting cases are so imperfect, but I had no time to take notes at the moment, and, having two patients to attend to at once, it was impossible. What I wish to draw attention to is the fact that stimulants made the cases worse, and, as latest authorities tell us, artificial respiration alone in such cases is useless. I believe what is wanted in such cases is a stimulus to the muscles of respiration, and the proceeding I have mentioned will be found to answer very well, where there is no time to procure assistance for the performance of such operations as venesection with transfusion, etc.

Toxic Properties of the Oil of Tansy.

Dr. W. W. BAILEY thus writes in the *St. Louis Courier of Medicine*, April, 1885: On the evening of January 16, 1884, I was hastily summoned to see D., an unmarried young miss, whom I found in violent toxic spasms, foaming at the mouth, comatose, with dilated pupils, feeble and frequent pulse.

When entering the room I detected a strong odor of tansy, and soon learned, upon inquiry, from the alarmed and anxious mother, that the daughter had been in the habit of using tansy tea, made from the herb, at nearly every menstrual period, for difficult and painful menstruation. Sending to the drug store on this occasion, as was her custom, for the herb, the messenger was informed that they had not the herb, but had the oil, leading the messenger to infer that it would do as well. Accordingly one-half ounce of the oil was procured, and about two drachms and a half of this was poured into half of an ordinary tin-cupful of water. This, with the exception of a small portion of the water, containing about a half drachm of the oil, was taken at one dose, and in the presence and with the consent of the mother, little dreaming of its dangerous properties as an irritant narcotic.

The young lady at once retired to her room and bed, the mother being in an adjoining room, with the door ajar. Soon a strange sound from the daughter's room startled the mother, and upon going to her assistance she found her daughter in a violent convulsion, with features horribly distorted, and I was sent for in haste. The patient being entirely unconscious and unable to swallow, it was impossible to administer any antidote then by the mouth. I at once resorted to pressure and massage over the epigastric region. Whether from the effects of kneading or the irritating nature of the oil, or both combined, I soon had the satisfaction of feeling a revulsive movement of the stomach, which increased in vigor until a part of its contents was expelled. Partial consciousness returned; then I administered ipecac, mustard, and large draughts of hot water. Soon the stomach was again emptied, and this time pretty thoroughly. Soon afterwards I gave two drachms of Husband's magnesia that I happened to find in the room, and to relieve the intense pain in the head, which my patient then complained of, I administered a full dose of acetate of morphia.

The patient was now restored to full consciousness, and realized the danger she had passed through. No unfavorable symptoms followed, and without additional medication, after thirty-six hours of rest and quietude in bed, she was again able to pursue her usual avocations. We see how thoughtlessly and recklessly this young life was placed in jeopardy, and how little is known of the toxic effects of this oil. Is it not enough to make one shudder to think what slight restrictions are placed upon the sale of any drug or chemical in the United States, and particularly so in our State? How often are the lives of those most dear and near to us placed in the hands of incompetent druggists or drug clerks? and how many do we find of this class, throughout the length and breadth of our State, dispensing the most powerful and dangerous medicines, with the nonchalance of a dry-goods clerk measuring tape to his customer, or peanut man chucking a nickel's worth of peanuts into the small boys' pockets? Let us of the medical profession arise from our lethargy, and proclaim from the housetops, and from the street corners, through the press, and by every other available means,

the necessity of enacting and enforcing rigid laws, by which the compounding or sale of any drug or chemical shall be placed only in the hands of the competent and skilful. Every day the press of the country chronicles the death of some one by the hands of the druggist. Only a mistake!—this is the verdict—and the ripple in the stream soon fades away, and another victim takes his place in the tide of events, and awaits his doom with complacency.

The truth of the matter is, the physician frequently does not know how often his patient's aggravated symptoms are attributable to the careless and incompetent druggist, and it behooves us to do all in our power to put on foot a reformation, and to this end let us all give our support.

The United States Dispensatory, in discussing the poisonous effects of the oil, reports a number of fatal cases from one dose of the oil. Taylor's Medical Jurisprudence, under the head of "Oil of Tansy," reports through Dr. Hartshorn several cases of death from an overdose, and says it has acquired the character of a popular abortive.

Adipocere.

The *London Med. Record*, May 15, says: In an interesting monograph on the formation of adipocere, illustrated by cases, Dr. E. Zillner (*Vierteljahrsschr. für Gerichtl. Med.*, Band xlii., p. 1,) makes the following observations as to the usual course of decomposition when a human body decomposes in running water or moist earth. The periods of time fixed are, however, necessarily subject to considerable variations. The changes, in the order of their occurrence, he fixes as follows: 1. Changes in the watery constituents of the dead body; imbibition into the blood and transudation—one week to one month. 2. Breaking down of the superficial integument, then of the corium, and consequent hæmorrhagic extravasation—within 2 months. 3. Breaking up of the muscular and glandular tissues, and of the organic basis of the bones, till finally an inorganic residue alone remains, and of the fibrous and elastic tissues; mechanical removal of the products of the breaking up—3 to 12 months. 4. Decomposition of the neutral fats, mechanical removal of the fluid products (glycerine and oleic acid), crystallization and partial saponification of the higher fatty acids in the panniculus; transformation of the rest of the blood-pigment into crystalline pigments (especially around the blood-vessels)—4 to 12 months and onwards.

III. MATERIA MEDICA AND THERAPEUTICS.

Creasote, a Solvent of Quinine.

Dr. E. G. WAKE, in the *Brit. Med. Jour.*, May 9th, says that it is not generally known what an excellent solvent of quinine we have in creasote. For many years he has had quinine pills made up with this menstruum where it is not contraindicated; and, believing his plan to be original, he wishes to recommend its adoption.

Cupreine.

To the Glasgow Southern Medical Society (April 2, 1885,) Dr. NAPIER showed a specimen, and gave a short account of cupreine, the new cinchona alkaloid. This alkaloid is obtained from the cuprea bark (from the *Remijia Pedunculata*, *Triana*) and derives its importance from the fact that it exists as an impurity in almost every sample of quinine at present in the market, more of the cuprea bark being now imported for the extraction of quinine than of all the other cinchona barks put together. Its physiological properties have not yet been determined. Its chemical properties are somewhat remarkable; though itself a base, it combines with certain other bases, such as soda, ammonia, and quinine. Its combination with quinine (2 parts of quinine to 3 of cupreine) forms the body known as homoquinine, a crystalline substance obtained from cuprea bark, and formerly regarded as a separate alkaloid.

Menthol for Burns.

The *Med. Age*, March 10, says: We are informed by trustworthy authority that the application of menthol to burns is followed by prompt relief of the pain. The explanation of how it does so is not attempted, and we make simple mention of the alleged fact. The physiological action of the drug is first to irritate, and the irritation is subsequently followed by a condition of anæsthesia. Whether, therefore, it acts "homœopathically" in burns, by exhausting the irritability of the nerve-endings, or through some inherent anæsthetic property, has not yet been determined. It is, however, essential in order to derive the expected benefit from the application, that pure menthol be employed. It is a notorious fact that in many of the "pencils" on the market, paraffin and thymol are largely employed as adulterants, while in some instances they are made entirely of pip-menthol or American menthol. We would suggest that in employing the drug in burns care be taken to secure pencils made of the unadulterated Japanese article; otherwise a possibly valuable remedy may be brought into disrepute. It is a demonstrable fact that failures of menthol pencils to produce expected results, have been traceable to the employment of spurious and adulterated menthol.

Friction in Supra-Orbital Neuralgia.

Dr. J. M. LATTI thus writes to the *Weekly Med. Review*, April 4, 1885: It is my misfortune to suffer occasionally from supra-orbital neuralgia. It usually assumes the periodical form known in common parlance as "sun pain," beginning in the fore part of the day, and declining again toward evening. For its relief various palliative and curative remedies have been used, including quinine and morphia internally, and occasionally hypodermic injections of morphia at the point of pain. Quinine hardly ever gives relief under two days, and hypodermics leave for several hours an unsightly bump on the forehead. Recently, while taking a long drive, I was seized by a sudden attack of my old tormentor. Sharp friction over the eyebrows with the palmar surface of the fingers completely relieved the pain in five minutes. There was not the usual return of the trouble next day. Before applying the friction the pain had continued about half an hour, a sufficient length of time to indicate that it was not a mere passing twinge.

White of Egg in Obstinate Diarrhœa.

From the *Allg. Med. Cent.-Zeit.*, we learn that CELLI has recently called attention to the curative properties of the albumen of hen's eggs in severe diarrhœal affections. In a discussion before a medical society at Rome, he advocated its use, and related two cases of chronic enteritis and diarrhœa, which having resisted all treatment, speedily made complete recoveries under the use of egg-albumen. The same diet is strongly recommended in the diarrhœa accompanying febrile cachexia, and in that of phthisis. In two cases of diarrhœa dependent upon tertiary syphilis, it was found of no avail. On post-mortem examination diffuse amyloid degeneration of the arterioles of the villi was found in these cases. The mode of administration is as follows: The whites of eight or ten eggs are beaten up and made into an emulsion with a pint of water. This is to be taken in divided quantities during the day. More may be given if desired. The insipid taste can be improved with lemon, anise, or sugar. In case of colic, a few drops of tincture of opium may be added.

Aseptol.

The *Dublin Jour. of Med. Sci.*, April, 1885, says: Under this name M. ARMESSENS proposes for trial a succedaneum to carbolic and salicylic acids, over which bodies it possesses the advantage of being readily soluble in all proportions in water. It is a viscous liquid, slightly reddish in color, specific gravity about 1.450, and with an odor resembling that of carbolic acid, but feebler.

It is said to possess all the chemical and antiseptic properties of phenol and salicylic acid, and may be given internally in doses intermediate between those of these compounds, without risk of irritant or injurious effects. Dissolved in water, in the proportion of even one in a million parts, it manifests valuable antiseptic qualities, and promises to be of great service in hospitals, schools, etc., and, in short, wherever we wish to destroy morbid germs in the air.

Chemically, it is a well-defined compound, and boasts of the technical title of orthoxyphenylsulphurous acid, $C_6H_4.OH.SO_2.OH$. The formula, as will be seen, is parallel to that of salicylic acid, $C_6H_4.OH.CO_2H$.

Iodide of Potassium in Inflamed Breast.

Dr. SAMUEL WELCH thus writes in the *Med. Press*, April 22d: Having been frequently disappointed with the ordinary remedies in the highly troublesome condition arising from the presence of milk in the breast after the death of the child, or in cases of still-born children, and having found that the effects of belladonna are often uncertain, and that purgatives, although certainly useful, are frequently unreliable, I determined to try the effect of iodide of potassium applied locally in the form of an ointment, and I have met with great success from its use in this manner.

The system I pursue is the following: I have the breast suspended in a sling to prevent all dragging, and pressure exerted on it by means of folded napkins. I then order a free inunction of the iodide of potassium ointment three times a day, administering purgatives internally. For the first two or three days, should it be necessary, I have the milk drawn off once daily by the nurse, and find almost invariably that after a few days all troublesome symptoms pass away, and any anxiety on the score of the milk is removed.

Bromide of Zinc.

The *Lancet*, April 18th, tells us that the following conclusions have been arrived at by M. TESTA: Bromide of zinc in small doses diminishes sensation; in large doses it diminishes motility; finally, it may cause complete sensory and motor paralysis. The motor and sensory disorders may gradually pass away, if the dose given be not too large. Bromide of zinc stops the frog's heart in diastole, but this effect takes some time to appear; its action is more like zinc than bromide of potassium, since zinc disorders sensation first and motion later, whilst bromide of potassium affects both sensation and motion at the same time, though the latter more than the former. Zinc in the bromide ought certainly to be modified in its action by the presence of bromine, and in mammals a certain degree of somnolence was observed. Bromide of zinc acts first on the peripheral terminations of the sensory nerves, and afterwards on the spinal centres, without, however, passing over the nerve trunks. An effect on the cerebrum cannot be denied, seeing that somnolence has been observed after the administration of the drug, but the disorders of sensation and motion are independent of its cerebral effect.

Secale Cornutum in Catarrhal Conjunctivitis.

Dr. EMIL BRENDEL thus writes in the *Peoria Med. Mo.*, April, 1885: Catarrhal conjunctivitis is characterized by the reticulate appearance of the superficial blood-vessels derived from the arteria ophthalmica on the sclerotic surface, increased secretions and pain caused by friction of the engorged blood-vessels, by which it can always be recognized. The treatment varies according to the severity of the attack, from simple shielding the eye and washing with common salt water, to the brisk application of strong solution of metallic salts.

But sometimes it happens that the most careful or energetic treatment is of no avail. The blood-vessels will not shrink, the swelling not recede and chemosis not be prevented. By such cases I was induced to give *secale cornutum*, and with an astonishingly favorable action. I gave it before bed-time, and repeated

it, if the patient awoke, in small doses of fifteen and twenty drops of the fluid extract. During the next day nothing but washing in solution of ammonia chlorat and shielding the eye was necessary. I had to repeat that treatment rarely for more than two or three days.

Whether this treatment is applicable to deeper-seated inflammations as scleritis or iritis or not, I have no experience, but there is no reason to doubt it as long as there is no purulent discharge when an internal astringent stimulant would be more proper.

Pilocarpine in Croup.

The *London Med. Times* (April 11th) says that Dr. L. J. DEL ALAMO LASSO DE LA VEGA, of Malaga, Spain, communicates to the *Correspondencia Medica*, of Madrid, notes of a case of croup treated successfully by pilocarpine. The patient was a child five years of age. When first seen on February 20, the skin was moist, the face pale, the eyes sunken, the aspect anxious, the veins of the neck somewhat engorged, the cough hoarse, the voice subdued, the dyspnœa urgent, the mucous membrane of the pharynx was reddened, pulse 120, temperature 100.4 F. Dr. Luis del Toro y Ojea, who was called in consultation, confirmed the diagnosis of true croup, there being no intermittency of the dyspnœa, and an absence of the barking cough observed in acute catarrhal laryngitis. The treatment at first consisted of a mixture of syrups of tar, tolu and belladonna, and as the dyspnœa increased, tartar emetic was given; no improvement following, ten centigrammes (gr. $1\frac{1}{2}$) of pilocarpine was dissolved in a gramme of water, and a third part (gr. $\frac{1}{3}$ of pilocarpine) injected every four hours, mercurial inunctions being at the same time made use of with chlorate of potash, carbolic acid, lime water and liquid nourishment. This treatment was followed by a copious flow of saliva, vomiting and expulsion of false membrane with profuse diaphoresis. The next day the dyspnœa had disappeared, the voice and the cough continuing hoarse and subdued, but the patient enjoyed more rest and was much quieter. In the evening, however, the alarming symptoms began to reappear, and so the pilocarpine injections were again at once resorted to, vomiting accompanied with fresh fragments of false membrane followed with considerable perspiration. Afterwards the condition improved day by day, and in a week's time convalescence was established.

Peroxide of Hydrogen in Aural Therapeutics.

Dr. FRANK ALLPORT, of Minneapolis, Minn., writes to the *Med. Record*, May 16, 1885, that he has found the peroxide of hydrogen very serviceable in cleansing the middle ear preparatory to an insufflation of boric acid, iodoform, and other antiseptic powders. This substance H_2O_2 , is a combination of so unstable a character that it readily decomposes, liberating one atom of hydrogen upon contact with various substances, pus among the number. The oxygen thus liberated is in a nascent condition and very active, and will force pus to escape in the form of bubbles from any cavity in which it may be confined. Dr. Allport first employed peroxide of hydrogen to cleanse the exposed mastoid cells after an operation, and was so pleased with its action in this case that he commenced using it in chronic suppuration of the middle ear. His method of employing the agent is very simple. The meatus is first wiped out with cotton, and then a

small quantity of the peroxide is instilled and allowed to remain for a minute or two, during which time the pus will escape bubbling from the meatus. The canal is now cleansed again, and a further instillation of the peroxide is made. The process is repeated until no effervescence is noticed, which is usually after the second application. The parts are then thoroughly dried and the insufflation is made. When the opening in the membrana tympani is so small as to render it difficult for the fluid to enter, a middle-ear syringe is used, and two or three drops passed into the tympanum. Dr. Allport states that the success attending this mode of treatment in his hands has been very gratifying. In order to obtain the best results the peroxide of hydrogen must be fresh. After standing a few weeks it loses much of its strength, and it should be kept in a colored bottle, away from the light and in a cool place.

Cascara Sagrada.

Before the Staffordshire branch of the *Brit. Med. Ass.* (February 26, 1885), Dr. REID read a paper upon the value of the drug. After discussing the opinions of different writers on the subject, and commenting on the fact that very little had been written about the action of the drug, Dr. Reid gave the opinions he had formed of it from an analysis of thirty-three cases, in which he had taken careful notes. He found, 1, that the result was all that could be desired in twenty-seven cases of obstinate and habitual constipation, complicated in many cases by various forms of dyspepsia, and in people usually of sedentary habits, more especially females; 2, that the effect was most beneficial in three cases of hemorrhoids; 3, that the drug was of no service, even in very large doses, in one case of obstinate constipation, although it did not cause pain; 4, that it had to be discontinued in two cases on account of its causing pain and sickness. The conclusions arrived at were as follows:

1. *Cascara sagrada* was a most useful remedy, both regarding its immediate effects and after results in obstinate and chronic cases of constipation.
2. It was better to prescribe it in continuous small doses rather than in occasional large ones.
3. Cases were met with in which, even in large doses—at any rate in the form of the fluid extract—the drug had not been of service.
4. No rule could be laid down by which one could ascertain previously whether the drug would suit or not; but, when pain was produced, in all probability it was owing to too large a dose being given.
5. It was of great service in cases of hemorrhoids, when other aperients had failed.

Ice to the Spine in Obstinate Vomiting.

Dr. WM. L. DAVIES, in the *Mississippi Valley Med. Mo.*, April 10, 1885, says: I was called to a patient, æt. forty-seven, the mother of nine children, suffering from a severe typhoid fever with intractable vomiting, which had persisted for several days. All of the ordinary means failed to control the condition of the stomach, and even pellets of ice were instantly rejected. High temperature characterized the fever, and every effort was made for its reduction, believing that it had much to do with the production of the nausea and vomiting, but the latter prevented the medication indicated for this purpose.

Menstruation had been normal for some time, except the epoch just preceding the attack of fever, which, although the flow made its appearance, was but limited in quantity. From the age of the patient and the number of children she had borne, I was inclined to the belief that the climacteric was a factor in the gastric derangement. Thinking, therefore, that the vomiting might depend upon reflex disturbance of uterine origin, or ill-defined spinal derangement, I applied ice in considerable quantity to the lowest part of the spine. The vomiting ceased instantly, and a profuse perspiration followed. The use of the ice was persisted in only as the indications appeared to demand it. Taking the hint from this, however, cool sponging was instituted with marked benefit, so that the use of the extreme cold to the spine was only of occasional necessity. With the exception of anodyne injections to produce rest at night, little other treatment was ordered. The subsequent progress of the case was satisfactory, and the ultimate recovery complete in about the average time.

The history of the case since her getting up has not confirmed my conclusions in regard to the menopause.

Cocaine as a Local Anæsthetic in the Use of the Thermo-Cautery.

Dr. HENRY B. MILLARD thus writes in the *N. Y. Med. Jour.*, May 2, 1885:

Though many courageous patients bear even the thorough application of the thermo-cautery with fortitude, there are constitutions that can not endure it, even lightly applied, without intense suffering or nervous shock. I have in the latter class of cases usually employed an anæsthetic internally, but it has often happened that some difficulty of the heart has rendered this impracticable. I have recently employed the cautery in two of these cases, pain being entirely prevented by the local use of cocaine.

The first was that of a gentleman suffering from chronic cervico-occipital neuralgia with congestion at the base of the brain; there was cardiac neuralgia, with feeble and irregular action of the heart. I injected into the neck near where I intended to apply the cautery, four drops of four per cent. solution of Merck's cocaine, and painted thickly, with several coats of it, the surface to be cauterized; coldness and numbness of the skin were produced. Light applications were freely made with a blunt point of Paquelin's apparatus, the operation being entirely painless; it was, of course, followed by burning.

The other instance was that of a very delicate lady who also suffered from heart troubles, rendering the ordinary anæsthetics inexpedient; the case was one of neuritis, the external cutaneous nerve of the arm being affected, causing great pain, some swelling, and loss of power of the arm and of the radial side of the forearm. Three drops of Merck's four per cent. solution were injected near where the nerve perforates the coraco-brachialis muscle, and the integument over the region of the biceps was painted with several coats of the solution, producing coldness and numbness of the skin. The cautery was freely used, the patient not suffering in the least.

There is every reason why, in such cases as cauterization of the superficial layers of the skin, cocaine should be of special use, since by it cutaneous insensibility can be easily induced. As regards the desirableness of some pain being

felt during the operation, this can be graduated by the quantity of cocaine used. The burning, erythema, congestion, etc., are just as great afterward, however, as if cocaine had not been employed.

Phormium Tenax (New Zealand Flax) and its Therapeutic Value.

The *Therapeutic Gazette*, May 15, says: Somewhere about the year 1869 or 1870, a letter appeared in the *Melbourne Argus*, signed by Mr. FRANCIS A. MONCKTON, bearing witness to the extraordinary healing properties of the *Phormium tenax*, commonly known as New Zealand flax. From that time until the present he has used it in hundreds of cases, including lacerations and amputations of every description, and he has no hesitation in saying that there is nothing known in the Old World that can equal it in producing healthy granulations (*Australasian Medical Gazette*, January, 1885). Mr. Monckton uses a strong decoction—the stronger the better—made from the roots and butts of the leaves, boiled for twelve hours. At one time he had to make it fresh every second day, as it readily ferments and deteriorates; but, since carbolic acid came into vogue, he keeps it for any length of time by adding about an ounce of equal parts of carbolic acid and glycerine to every quart. Mr. Monckton says he requires no other antiseptic precautions, but simply syringes the lesions occasionally with it, and maintains cotton-wool or lint soaked in it constantly to the parts affected. If there are no foreign matters to be discharged there will be no discharge, in support of which he instances the case of a man whose forearm he lately amputated after it had been shattered through dynamite. The ligatures were thirty-two days in coming away, and the amount of pus from the operation up to that time would not altogether amount to a tablespoonful. The same patient had the soft parts of the other forearm torn and blown into such a mass of shreds that the members of the staff thought it was hopelessly lost beyond repair. Mr. Monckton asserts that with the same treatment it became as sound and useful as before, and exhibits only scars, showing where new skin had been formed.

The Influence of Nitrite of Amyl on the Urine.

In the *London Med. Record*, April 15, we read that an anæmic boy, subject to severe attacks of headache, was treated with frequent inhalations of nitrite of amyl. Dr. MYA then observed that, directly the urine was passed, crystals of free uric acid were spontaneously deposited. Further investigations with proper precautions undertaken upon this patient, as well as upon others, showed that nitrite of amyl, whether taken internally or inhaled, increases in a marked degree both the amount of urine passed, and the quantity of uric acid and urea excreted. The author has since found that Professor Rosbach, of Jena, had been using nitrite of amyl and nitro-glycerine with kindred results. Professor Rosenthal also had used a solution of nitrite of amyl (three drops in half a litre of water) as an antiseptic for washing out paralyzed bladders. Professor Dittel, too had used this wash. The author sums up the matter by saying that the generally recognized actions of nitrite of amyl on the urine are (1) that it increases the quantity passed, and (2) that when injected into animals or inhaled in large doses, it produces glycosuria.

In addition to this, the author alleges that he has established (1) that the increase of urine is accompanied by a proportionate increase in the two chief nitrogenous constituents—urea and uric acid; (2) that Trommsdorff's method gives the reaction of nitrous acid with the urine of those who have been taking nitrite of amyl largely for some days—a reaction the author has never observed in normal or pathological urines; (3) that in Bright's disease there is, under the influence of nitrite of amyl, a remarkable daily increase in the quantity of urine and diminution in the amount of albumen, œdema at the same time decreasing. The author mentions with approval Professor Rossbach's view that the good effects of nitroglycerine (which like nitrite of amyl, lowers the arterial tension) show that the high tension and the hypertrophy of the left ventricle, so far from being compensatory in atrophy of the kidney, should be regarded as morbid elements, the diminution of which improves the condition of the patient. Dr. Mya ascribes the benefit to increased facility of circulation in the kidney. Professor Rossbach regards the prolonged use of nitrite of amyl as dangerous, and he prefers nitroglycerine. Dr. Mya, on the contrary, has never seen any ill effects, except transient headache, from inhalations of two or three drops of nitrite of amyl every hour, or sometimes every half-hour, for several days; and this, although three boys and two extremely anæmic persons were comprised amongst the patients.

A New Remedy in Gouty Obesity and Dyspepsia.

Dr. J. MORTIMER GRANVILLE thus writes in the *Lancet*, April 25: I have been obtaining some very good results of late in cases of gouty obesity and dyspepsia with a remedy which, although familiar and based on the simplest physiological principles, is, so far as I am aware, new as I use it. It occurred to me some time ago, as indicated by the physiological state in gout, chronic and irregular; and having now had ample opportunities of trying it, I venture to suggest it to practitioners generally, to whom I think it will at once commend itself as essentially *likely* to be of service.

One of the earliest, if not a primary, error of function in gout, whatever may be the real *cause* of that malady, is failure of the liver to secrete sufficient, or normally constituted, bile. The product of liver function is, as we know, excremento-recremental, the greater part of the bile being re-absorbed in the intestines; and among other uses in the economy, such as helping to hold the cholesterol, and *perhaps the uric acid*, in solution, it is destined to facilitate the proper digestion and assimilation of fats. If fat be not duly assimilated, it will be deposited crudely, as in the omentum and elsewhere, with the result of obesity, coupled with deficiency of heat production and maintenance; which is a very different thing from obesity with full or even excessive powers of calorification. I think it is important to make this discrimination between two distinct and totally different classes of cases. In the former class—common in persons with an inheritance of gout, in which there is obesity with a low grade of heat-force,—I am giving the biliary salts, extracted from ox-bile, in the form of a pill, to be taken as pepsine is taken, with food. The results are very striking. The stools are rendered characteristically rich in bile without purging, the food is readily digested, and the accumulations of fat seem to melt slowly away. The taurocholate of soda with the glycocholate of soda are readily obtained from ox-bile by

evaporating to dryness and pulverizing, making an alcoholic extract, filtering, and precipitating by small successive additions of ether. The deposit is non-crystallizable so far as the taurocholate of soda is concerned, while the glycocholate of soda appears, if the deposit be left to stand, in acicular crystals, forming themselves into rosettes. With any suitable excipient the mass may be readily made into pills, each containing about four grains of the taurocholate, and coated so as not to dissolve in the stomach. One should be given with each meal or immediately after food. The effect of this new remedy, both for defective digestion and assimilation, and for obesity in cases in which fat is accumulated instead of being burnt off in the system as nutritive fuel, will, I think, be found highly satisfactory.

Simaba Cedron in Hydrophobia.

The *London Medical Record*, April 15, says that Dr. GEORGE VAILLANT, of New York, recommends (*Der Fortschritt*, Geneva, March 5, 1885, No. 5) the *Simaba Cedron* as a remedy for hydrophobia. It is the seed of a fruit of a small tree, resembling the almond tree, indigenous in South America, and belonging to the natural order of the Simarubiaceæ. Every part of the tree contains a bitter substance, but most particularly the seed, which therefore is exclusively used for therapeutical purposes. The seed is of the size of that of *Anacardium* (cashew-nut), at one side convex, at the other flat or slightly concave; it is of blackish color, rough, hard and resistant, but can be cut with a sharp knife. Its section is yellow, of metallic lustre, and, when chopped or pounded, odorless and of extremely bitter taste. It contains a crystalline intensely bitter principle, the "cedron," which is soluble in boiling water and of neutral reaction.

Hunters and trappers in California and in the South-West of America use the seed as an antidote against the bite of the crotalus and other poisonous snakes, for which purpose they steep the shavings of the seed in whisky, place them on the wound, and chew a small portion of this remedy. It appears to have a neutralizing effect on animal poisons, and has proved beneficial in a number of cases of hydrophobia, in which, besides other well-marked symptoms of the disease, convulsions had already reached great intensity.

About three years ago, Dr. Vaillant was called to see a boy, who, three weeks previously, had been bitten by a mad dog. The patient was in great agony, screaming and howling. It was an indubitable case of hydrophobia. Dr. Vaillant administered about one drachm of cedron, partly by the mouth, partly by subcutaneous injection. After twenty-four minutes, the patient became quieter, and after one hour the most prominent symptoms had disappeared. On the following day the boy was quite conscious and composed, and free from nervous exhaustion. On carefully examining the body on the third day, a large phagedæna was discovered, from which thin ropy yellow pus, of extremely offensive smell, was oozing. The patient recovered after one week's treatment, and had no relapse since.

Dr. Vaillant inoculated with the pus, taken from the boy's ulcer, a large tomcat, at 3 p. m.; soon afterwards the most violent symptoms of hydrophobia appeared, continuing until 4:30 a. m. of the following day, when the animal died. He watched the experiment from the beginning to the end.

He further reports a case, to which he was called in consultation at Saratoga. A young lady had been bitten by her pet dog five months previously. His diagnosis of hydrophobia confirmed the opinion of his five colleagues, who attended the case. As he was not able to administer the cedron by the mouth, it was given in subcutaneous injection. Complete recovery was the result.

Paraldehyde as a Sleep-producer in the Treatment of the Insane.

Dr. H. C. HARRIS thus writes in the *Phila. Med. Times*, May 16: As the production of sleep is often a chief factor in the treatment of the insane, I am prompted to offer the result in one hundred and fifty-two cases of mental disease in which sleep was induced by a recent hypnotic which is now attracting much attention. When paraldehyde is given to a man in moderate dose (fifty minims), the most marked result, in the majority of instances, is a quiet sleep of from two to seven hours, which is induced in ten to forty-five minutes after its absorption.

Its advantages over chloral in our experience are mainly that there is no danger from its action on the heart; in fact, one hundred minims have been given to cases of acute mania without the slightest noticeable effect upon the heart or respirations, the repose simulating closely natural sleep, the subject being easily aroused, but soon dropping off again when let alone. No convulsive effect or dreamy stimulation of the mind has been observed, its first effect being apparently upon the cerebral hemispheres. Never have we seen the awakening accompanied by any unpleasant symptoms; in fact, there is no objection on this score save the disagreeable odor of the breath, which is perceptible for from twelve to seventeen hours after the exhibition of the drug.

In cases of melancholia, paraldehyde has acted commendably; even in patients who would sit for hours deploring their unhappy lot, and whose brains were filled with fears of an overwhelming calamity, a dose of sixty minims of the drug has calmed them into a quiet and apparently dreamless, refreshing sleep. In several instances, however, we found it necessary to increase the dose to seventy-five minims, but this amount uniformly brought on a most gratifying rest.

In those cases where paraldehyde is required to be given for a length of time, a certain tolerance would be expected; but the observations lead us to believe that the tolerance of paraldehyde does not manifest itself sooner than other hypnotics, and whether the increased dose was needful on account of a slight aggravation of the disease, or a tolerance of the drug, as yet we are unable to say; in all probability both have taken a part.

As an anodyne (in a limited number of trials) the remedy has failed either to relieve pain or produce sleep, although seventy-five minims of the drug have been taken; in no case, however, was nausea excited.

The following table will show the types of insanity that embrace the 152 cases to whom 1518 doses of the drug were given:

Mania, acute, 38; chronic, 9; periodic, 5; epileptic, 2; general paresis, 16; dementia, acute, 1; terminal, 11; organic, 19; senile, 4; epileptic, 2; melancholia, acute, 28; chronic, 11; hypochondriasis, 1; imbecility, 3; opium-mania, 1; dipsomania, 1.
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Our results having been so uniformly satisfactory, we consider that paraldehyde is a valuable addition to our list of hypnotics; and where a sleep-producer must be given for a length of time, we consider it a most efficient, safe, and reliable remedy, the *sleep produced being in proportion to the size of the dose administered.*

Nitro-Glycerin in the Cold Stage of Intermittent Fever.

CHARLES WEIL, M. D., thus writes in the *Therapeutic Gazette*, April 15: 'Articles on the therapeutic uses of nitro-glycerin, or glonoinum, have been quite numerous since its revival and application in disease, angina pectoris in particular, in which affection it has been used with remarkable success since its first employment by that distinguished investigator, Dr. Wm. Murrell, of London. (See *Lancet*, 1879, vol. 1, pp. 81 and 225.) But in no article has the writer seen it recommended as a prompt and efficient remedial agent in the cold stage of intermittent fever, which it cuts short at once, as does morphine, for instance, or chloroform.

I have employed it for this purpose in four different cases so far, with the desired result in each one, and without any unpleasant effect, aside from a little ringing or buzzing in the ears, which, as we all know, is part of the physiological action of this agent. The last case in which I used it, was that of Mrs. L. F. G., a stout married lady twenty-six years of age. Under the greater part of the house in which she resides there was a pool of water prior to the sewerage which has since been laid in the street. I was hastily summoned at about half past seven o'clock in the morning of November 30th, last, and found her covered with blankets, and with chattering teeth, in the cold stage of an intermittent fever. I gave her a hypodermic injection of morphine, which almost immediately cut the attacks short. As she could not take quinine in any form, on account of an annoying eruption it would produce, I placed her on liquor potassii arsenitis, gtt. iv, *ter in die*. But this did not act as quinine would doubtless have done, for between three and four o'clock on the following afternoon she had another attack, which was again relieved by the morphine. After that, she was free from all attacks until the sixteenth of last month, when I was again hastily summoned. I took with me my one-per-cent. solution of nitro-glycerin, and dissolving gtt. ii, in aquam xv, injected the whole into her arm. It acted as promptly and as efficiently as it did on the previous occasions, or as morphine did.

I would recommend, however, that only one drop be used, instead of two, unless the condition and nature of the patient would warrant more. I would also state that I greatly prefer the solution to the pills which some of the manufacturing druggists have placed on the market; the one-per-cent. solution in alcohol or ether being the most advisable.

My object in writing this brief article is to call attention to this additional property of glonoin, which the few cases mentioned justify me in claiming for it.

Cocaine in Dental Surgery.

Dr. J. MCKNO ACKLAND, thus writes in the *British Medical Journal*, April 11, 1885: Having read with interest the reports which have appeared week after week, of the various uses to which cocaine has been put, I thought a few particulars of my experiments with it in dental surgery might be interesting.

For extraction, I have tried both the solution and the hydrochlorate of cocaine itself, and, with the latter, have obtained very satisfactory results. It seems to answer best for front teeth and bicuspid, also for stumps when separate. The following case will show the method adopted, etc.

R. W., a porter, aged 20, came to the Dental Hospital to be relieved of a lower right second bicuspid, which was above the average size and quite firm. I first surrounded the tooth, and about half an inch of the gum around it, with the corner of a napkin, to keep the parts dry, and prevent the cocaine from being carried off in the saliva. I then freely applied the crystals to the gum close around the tooth, three times, at intervals of two minutes each. After the second application, the gum was entirely anæsthetized, the patient not feeling the pricks of a sharp probe. A few seconds after the third application, with a pair of warm forceps, which I carefully hid from view, I extracted the tooth, and said nothing for some time. At last I desired the patient to wash out his mouth, but he began to smile, saying the tooth was not out; nor would he believe that it was until he had felt the empty socket with his finger.

With large teeth I have found it a good plan to treat as above, and then just before extracting, to introduce the nozzle of a fine hypodermic syringe between the gum and neck of the tooth, and inject three or four minims of the 4 per cent. solution. This may not, however, be possible in all cases.

With molar teeth, more especially upper, although the pain is greatly diminished, there is always the twinge of the actual separation of the tooth from its socket, and the rupture of the nerves, etc., at the apices of its roots.

In all the cases I have seen, the gum has returned to its normal state in a short time, and there has been no unfavorable symptom of any kind, although I have carefully watched for them, both locally and otherwise. As an obtundent for sensitive dentine, the 20 per cent. solution has proved, so far, very effectual. By applying it on a pellet of cotton-wool for a short time, I have been enabled to proceed with the preparation of a cavity for filling, which before has caused the patient the most acute pain; and a solution of this strength will, I think, be found of great advantage in cavities in close proximity to the nerve, or even in operations on the nerve itself.

The Importance of Shampooing and Gymnastic Exercise in the Treatment of Epilepsy.

Dr. JOHN KENT SPENDER thus writes in the *Brit. Med. Jour.*, May 2d: Whatever may be the healing virtue of "rest" in a surgical sense, there are diseases in the treatment of which too much bodily rest and too much sleep may be medically injurious; that is to say, they are injurious in adding to the lethargic dulness which is the natural sequel of certain morbid processes; so that our duty as physicians lies in counteracting, by outward means, the depressing effects of internal and invisible forces. I do not wish to say that drugs have been too highly estimated in treating epilepsy; their effects are more striking than in the treatment of most other diseases, and are one of the approximate certainties of medical art; but other remedial agencies have been valued too little. It may be proper to think of drugs first; but long ago Dr. Russel Reynolds recommended "wholesome mental exercise," and I wish now to add a plea on behalf of whole-

some bodily exercise as well. Bodily exercise means bodily education, or the training of the muscles into stronger and more harmonious action; and by soothing and regulating the nerves, all the disorderly phenomena of epilepsy may be brought into comparative subjection and quietness.

Among the useful hints which have been offered by Dr. Radcliffe on this subject, he has warned us that the "sleepy epileptic" must be roused early, and made to leave his bed. Similarly, the stupid and idle epileptic must be summoned to his martial drill, and his senses kept "alive" by stir and movement. But even when the faculties are acute and femininely sensitive, the stultifying effects of the long-continued epileptic convulsion may be appropriately met by gymnastic exercises and systematic shampooing of the whole body. In February, 1884, Dr. Radcliffe kindly entrusted to my care an epileptic lady of middle age, refined in manner, but almost emaciated in form, and the mother of two healthy and happy young children. Medicines of a special kind had been long administered, including cod-liver oil; but, during the last few months, the steady improvement has been materially quickened by the following plan of action: The body is sponged with hot water every day; the arms are moved up and down frequently (this expands the narrow chest), and clubs of moderate weight are raised with the hands. Walking in the open air has been encouraged on all possible days. Once a week, a professional shampooer comes and carries out a complete massage of the whole body. Two epileptic girls, children of farmers in a neighboring county, have rapidly improved under similar management.

What I have now written is probably quite familiar to experts in neurology; but Trousseau says nothing about it, and, in the best English monographs, the hygienic treatment of epilepsy receives scanty recognition. Assuming that a rational scheme of medication is adopted in any given case, I claim that regular shampooing and gymnastic exercises may greatly help our therapeutic work, and sometimes make all the difference between success and comparative failure.

Hyoscyaminum Sulphuricum.

Dr. L. CLARK TONEY thus writes in the *Weekly Med. Review*: Two years of practical observation and experience in the New York City Female Hospital of 1,500 or 2,000 patients, has taught me to look upon this agent with no small degree of confidence and enthusiasm. This alkaloid was practically and originally introduced first on Blackwell's and Ward's Islands, New York City.

It is an amorphous, crystalline body, odorless, and readily soluble in alcohol, sparingly in water. It is made at Darmstadt, and "Merck's Preparation" excels any I ever used for efficacy and reliability. I consider it the most reliable medicine in the materia medica. I gave four or five hundred hypodermic injections of it during my two years as "interne," and I feel amply qualified in saying that no remedy has as yet been introduced which is in effect as speedy and reliable as hyoscyaminum sulphuricum. The dose we usually began with was $\frac{1}{4}$, and increasing to $\frac{1}{2}$, according to severity of the case; $\frac{1}{2}$ is the ordinary dose given. The usual, and I might say the almost universal symptoms following its administration are:

1. Dilatation of the pupils.
2. Dryness of the fauces and consequent thirst.

3. "Drunken man's" gait, or locomotory loss of power.
4. Occasional vomiting, especially when given by the mouth.
5. Hallucinations and delusions.
6. Sleep after heavy doses.

I have seen cases of acute mania rapidly convalesce under its quieting influence, and have seen those who refused to eat quite well satisfied to eat after its effects had worn off (there was exerted a mental influence). I have seen it calm the epileptic furor, when nurses built "à la Sullivan" failed to handle or control. And we frequently gave it to relax muscle, to reduce dislocations, and "set" fractures. Its effects usually last, when given in good doses, ten or fifteen hours. It must be repeated when effects wear off, of course.

The moral or mental effect is astonishingly great among the maniacal. In Bellevue Hospital I used it on those suffering with mania-a-potu, and found no substitute for it. It is therefore an excellent remedy to administer to the young man in a "high-toned" neighborhood, whose family and physician wish it kept from the knowledge of the public. An excellent remedy to use when the family do not wish the patient to be confined to an asylum or inebriate hospital. An excellent and magnificent remedy to produce muscular relaxation for reductions.

The most convenient per cent. to make is a $\frac{1}{2}$ per cent. solution.

I hope this great boon to the profession will be more fully appreciated by the profession, and become more widely known and more generally administered.

Cocaine in Diphtheria.

Dr. HOWARD A. KELLY thus writes in the *Med. News.*, April 25, 1885: The following results, which I have obtained from the use of cocaine in diphtheria and diphtheritic sore throat, are uniform and remarkable:

Case I. January 21st, Emily C., age 11, complained of feverishness for two days, and for one day of sore throat. She has anorexia and slight prostration. The fauces are red and engorged; the tonsils enlarged, nearly touching; they are both covered with a thick, pultaceous, gray mass. A diaphoretic mixture was given, and a four per cent. solution of hydrochlorate of cocaine applied to the throat every two hours. The false membrane began to melt immediately, and in five days she was well, and the throat normal.

Case II. George T., age 13, has had a headache for several days. This morning his throat began to pain him, and in the afternoon he was feverish. Both tonsils are enlarged and red; on the right tonsil is an elongated, oval patch of ulceration, one-half inch long. Cocaine was applied as in preceding case, and in two days the throat was well; and the prostration, which had been marked, disappeared gradually after.

Case III. Mary F., age 19, hump-back, has felt weak and prostrate for two days. She has a rapid, feeble pulse; fever, and an enlarged tender gland under the right ear and sore throat. The pharynx is engorged, and of an angry-red color. The tonsils are both enlarged, and on the right tonsil is an oval patch of ulceration a half inch long. Cocaine, applied as in the preceding cases, cured the inflammation in twenty-four hours, and completely removed all trace of ulceration, except a thin crescentic ring, which formed the anterior border of the ulcer.

Case IV. Mr. O'C., a very intelligent druggist, came into my office, a few

evenings since, looking very wretched with a stiff neck, and in a hoarse voice informed me that he was "all broken-up." The pulse was quickened; temperature 102° ; the pharynx and fauces very red. On the left tonsil was an elongated, whitish ulcer, half an inch in length. The secretions were constantly accumulating in the throat, and he suffered severe pain in clearing it. Cocaine, used as in other cases, relieved the pain in hawking, cured the ulcer in one day, and on the second day the patient was feeling perfectly well.

In each of these cases, except the third, in which cocaine was used, some constitutional measures were employed, as I have found that they always add greatly to the patient's comfort, although apparently exerting no control over the duration of the disease. For this purpose I give morphine in small doses, or bromide of potassium, or nitrate of potassium, with sweet spirits of nitre, concentrated tincture of gelsemium, or liquor potassæ citratis.

Dr. Schools, of this city, informs me that has had a similar experience with the drug in a case like the first I have detailed.

In the so-called cases of diphtheritic sore-throat with erosion, I feel confident that cocaine is of signal value.

Phosphorus in Pill Form.

The *Pharmaceutical Record*, March 2, 1885, says: Many formulas have been suggested for this preparation. Among the solvents used for it are resin, cacao butter, and balsam of tolu. Fluid solvents are at other times used for its perfect solution, and on their evaporation the divided phosphorus is incorporated with the ingredients of which the pill-mass is to be composed. Of the latter class is the present pharmacopœial process. It gives unsatisfactory results, in that the chloroform does not readily take up the phosphorus.

The suggestion of resin as a solvent was made by A. W. Gerrard. A little later (1874), Mr. A. C. Abraham, of Liverpool, England, suggested balsam of tolu, and stated that it could be satisfactorily dissolved in this at a much lower temperature. An objection to it was that the phosphorus was not sufficiently divided, and that the particles of it in the balsam of tolu when cold were larger than they should be for the small dose of phosphorus called for. Recently Mr. Abraham has renewed his investigations on this subject, and in a paper read before the Liverpool Chemists' Association, and published in the *Pharmaceutical Journal*, he gives the results, which we epitomize below.

Measurements of the particles of phosphorus which had been separated from its solution (?) in balsam of tolu, by dissolving the balsam in alcohol, were found to vary from $\frac{1}{1000}$ of an inch as the largest to less than $\frac{1}{1000}$ of an inch, and this he holds is a sufficiently fine state of division to be regarded as a satisfactory preparation.

The following formula Mr. Abraham gives as one that to him has been entirely satisfactory:

R. Washed balsam of tolu	960 grains.
Phosphorus, pure	40 "

Place the tolu and phosphorus in a suitable enameled iron basin capable of holding about 40 ounces, and containing about 20 ounces of water. Heat the,

basin in a water-bath, and when the ingredients are thoroughly melted, stir with a glass rod until particles of phosphorus can no longer be seen, taking care that the ingredients are not brought above the surface of the water. Continue the stirring constantly for fifteen minutes, remove the basin from the water-bath, place it under a tap, and pour over it cold water. When sufficiently cool, mix it further under the water with the hands for a short time, and finally place it under water in earthenware jars.

One grain contains $\frac{1}{2}$ grain of phosphorus. This preparation may be kept almost indefinitely without deterioration, is always ready for use, and may, I believe, be made into pills practically without loss by oxidation. Of course, as is the case with other methods, care and knowledge are required to prevent the phosphorus from being burned away. The best way to avoid this is to add a drop or two of spirit, or some volatile liquid immediately after crushing the tolu in the mortar, and before the addition of the excipient. A smell of phosphorus should hardly be detectable within a very short distance of the operator; if otherwise, the pills should be thrown away.

Like most things of the kind, the value of phosphorus was no doubt much overestimated when it first came largely into use some ten years since, and some may perhaps think from its diminished use that the subject is of little importance; but I cannot agree with this, because I believe that independently of its value having been originally overestimated, thus intensifying the reaction, this reaction is in part due to the inefficient pills which have too often been supplied.

Some beautifully coated pills which recently passed through our hands gave not the faintest smell of phosphorus when cut, nor did they show any light when rubbed in the dark.

A New Remedy for Cholera.

Dr. SHAMSUDIN J. SULEMANI thus writes in the *Lancet*, April 11: During the latter part of the epidemic of cholera, which broke out in July last at Baroda (a town in India), five marked cases of this disease were treated with jadvari khatai, papita, narjili daryai, and cardamom seeds; four of these were cured and one proved fatal. The above mentioned four drugs were mixed and given in ten-grain doses to adult patients every hour or two, according to the severity of the symptoms; in each case three or four doses were used. The following are the notes of the cases in question:

Case 1. A girl of about twelve was attacked with cholera at 1 a. m., and seen by me at 6 p. m. the same day. Her body was cold, pulse almost imperceptible, eyes sunken, frequent purging, stools watery and copious, and of the color of rice-water. There was suppression of urine of twelve hours' standing. Before I saw her she had been given chlorodyne and stimulants, but without any effect. Three doses of the above medicine were administered to her, the second dose being given one hour after the first, and the third after two hours. Soon after the administration of the first dose purging diminished and the pulse became perceptible; the second dose was followed by marked improvement, and the extremities and the trunk became gradually warm. She voided urine some two hours after the third dose, and was then out of danger.

Case 2. An adult male commenced purging and vomiting at 6 a. m., and was

treated with chlorodyne and stimulants, but without relief. I saw him at 5 p. m., the same day, and found him much exhausted. His eyes were sunken, extremities cold, and pulse hardly perceptible. Vomiting was incessant, and he could scarcely retain medicine or water, and had cramps. He had not passed urine for about eight hours. Sinapism to the epigastrium did not check vomiting, and so a mixture of equal parts of laudanum and chloroform was sprinkled over a piece of lint, which was applied over the pit of the stomach for about five minutes, though not continuously, and it stopped the vomiting. Immediately after this the medicine above referred to was given, and he gradually improved. It was repeated twice at the interval of two hours, and he passed urine and recovered.

Case 3. A woman aged twenty-five began to vomit and purge at 6 p. m., when chlorodyne and some other medicine were administered, by which vomiting was checked, but purging continued unabated. The next morning, at 11 a. m., I was called to see her for the first time. She was not able to speak, but could open her eyes when shouted to. She had not passed urine since the attack commenced. The whole body was cold, and there was no pulse; even the beating of the brachial artery could not be felt. Now and then cold perspiration broke out. Two doses of the above medicine were given, but there was no effect. Subsequently some other treatment was adopted by another medical gentleman, but the patient died at about 5 p. m.

Cases 4 and 5. The remaining two cases had well-marked symptoms, and showed signs of improvement after the first dose; they were ultimately cured by two subsequent doses in one case, and by three in the other.

I may observe here that in all these five cases no food was allowed while vomiting and purging continued. Sinapism to the epigastrium (for checking vomiting) and friction and warm bottles to the extremities were ordered. As regards the medicinal properties of the above-mentioned drugs, I beg to state that the first three are said to be tonic, and recommended in Makhzanuladviya for cholera: cardamom seeds act simply as carminative. Their botanical names and the natural orders to which they belong are as follows:

<i>Name of Drug.</i>	<i>Botanical name.</i>	<i>Natural order.</i>
Jadvari khatai.	<i>Delphinium denudatum.</i>	Ranunculaceæ.
Papita.	<i>Strychnos ignatii.</i>	Loganiaceæ.
Narjili daryai.	<i>Lodoicea seychellarum.</i>	Palmæ.
Cardamoms.	<i>Elettaria cardamomum.</i>	Zingiberaceæ.

These drugs are mentioned by Dr. W. Dymock in his "Vegetable Materia Medica." Narjili daryai has a very hard kernel, and requires to be filed before it is finely powdered.

It is obvious that the number of cases in which this new remedy was tried, is too small to enable one to judge of its value; however, it deserves a further trial.

Permanganate of Potash in Insanity Associated with Amenorrhœa.

Dr. P. MAURY DEAS thus writes in the *Brit. Med. Jour.*, April 18th: It was, I think, Dr. Sydney Ringer who, two or three years ago, first drew attention to the fact that permanganate of potash, hitherto chiefly known as a powerful oxidizer and disinfectant, had a decided effect on the uterine function, and could be used with advantage as an emmenagogue.

As I am inclined to think that this use of the drug in question has not been followed up so much as it deserves, I am anxious to lay before you a few notes as to the results of my experience of its utility.

I have chiefly employed it in obstinate cases of amenorrhœa, associated with mental derangement, either as the cause of the latter, or as a co-existing condition, both depending on a common cause, such as sudden shock, fright, etc.

The first case in which I tried the permanganate was that of a young woman who had broken down in health from the effects of prolonged nursing of a sick relative, and the anxiety connected therewith. The catamenia were suppressed, and the patient fell into a state of general bad health. After a time, mental symptoms supervened, of the nature of melancholia, with stupor. When, after some months, she came under my care, the catamenia had been suppressed for about a year, and the general health was much below par, with constipation, anæmia, and general want of tone; the mental symptoms being obstinate taciturnity (never speaking a word), volitional power almost entirely in abeyance, and a tendency to the cataleptic condition.

Various remedies had already been tried for the amenorrhœa. She was treated on general principles for two or three months, with no change beyond some little improvement in her general health. Permanganate of potash was then prescribed in pills of one grain, one three times a day, and increased after a time to two grains three times a day. After taking them for about two months the catamenia appeared, and almost simultaneously a rapid improvement set in in her mental condition and general health. She was watched carefully at the next period; the pills were renewed for a week before, and hot hip-baths administered. The catamenia appeared, and from that time the patient made a rapid and uninterrupted recovery.

I subsequently employed it, with equal success, in several other cases of a somewhat similar type. One important point is, not to be discouraged too soon. You may have to persevere with the remedy for months and months, though in some ordinary cases of chlorotic amenorrhœa, uncomplicated with insanity, I have found the desired effect produced very rapidly. In cases where I have prolonged the use of the drug for a long time without the catamenia being restored, there has still been a marked improvement in the general mental and bodily condition. The permanganate, indeed, seems to act as a general and nervine tonic, assimilation being greatly promoted, and the anæmic condition improved.

Recently I have had a remarkable example both of this and of the restoration of the menstrual function after prolonged suppression. This is a young lady who has been under my care for the last seven months. When I first saw her, her general condition, both bodily and mental was very miserable; and she had the

look of confirmed amenorrhœa, from which she had suffered for a considerable period; the exact time was not known. She was given the permanganate, the use of which was continued, without apparent effect, beyond a gradual but very decided improvement in her general bodily condition, until I was considering if it were worth while to continue it any longer, when a fortnight ago, after fully six months' perseverance in the remedy, the catamenia appeared. Mentally, there is considerable improvement in the case; but it is fluctuating and uncertain. The mental derangement had, however, existed for more than eighteen months before the special treatment was begun.

I should be glad to have my experience of the permanganate as an emmenagogue checked by that of others; but at present I feel inclined to draw the following conclusions:

1. Permanganate of potash is an useful and safe emmenagogue, and free from the disadvantages which attend some other remedies of this class.
2. Its use may be continued for months without any bad effects, and success need not be despaired of, even after many months.
3. Even when it fails as an emmenagogue, it acts beneficially as a general and nerve tonic.

Clinical Use of Chrysarobine.

Dr. B. MERRILL RICKETS thus writes in the *Cinn. Lan. and Clinic*, May 2: There is perhaps no remedy known to the dermatologist, which has been of more interest and used with more favorable results in the treatment of psoriasis, chronic eczema and the parasitic diseases, especially those of a vegetable origin, than the active principle of Goa powder—chrysarobine—formerly known as chrysophanic acid.

It was used in the form of an ointment prepared by gradually dissolving in various proportions the powder and simple ointment while being heated.

There being much discoloration of the hair, nails, and especially the clothing with which it comes in contact and many times producing a violent dermatitis even by the use of a mild ointment, its use was almost entirely abandoned.

However, with these objections its employment could not entirely be ignored by those who best knew its virtues until a more extended investigation was made to determine the proper method of its application, which has been done within the past twelve years in the following mixture, known as "Pigmentum Chrysarobine Compositum" the credit of which is due Dr. Geo. H. Fox, and which is now extensively used in the New York Skin and Cancer Hospital.

R. Chrysarobine	
Acidi salicylici aa	10.
Etheris	15.
Collodi flexis q. s. ad	100.

There is another which is also extensively employed and with about the same results, but very much more expensive, the gutta percha being substituted for the collodion in the following manner:

R. Chrysarobine	
Acidi Salicylici aa	10.
Liq. gutta percha ad	100.

Either of these prescriptions should be prepared in small quantities and kept in dark colored well-corked salt-mouthed bottles, otherwise it will become of a dark, thick, muddy liquid from decomposition, which renders it entirely useless.

When properly prepared it should be of a light, bright, canary yellow and about the consistency of olive oil.

Physicians after using the above mixtures have found that they furnish the best means of its application, consequently the ointment is rarely used.

The liquid is especially indicated in those cases where the psoriatic condition has existed for any great length of time, or in those cases of a more recent date where the eruption is extensive with much elevation and induration. It may be used in such cases with almost unlimited success by applying it with a small brush after having carefully removed the dry scales which should always be done just before its application, the number of which should be governed by the amount of induration, elevation and exfoliation.

Should there be continuous scaling with a thickened condition, daily applications may be necessary accompanied with alkaline baths once or twice a week as the case may require.

Its employment as a parasiticide is of recent origin, especially in the treatment of trichophytosis either of the hairy or non-hairy parts. It was thought dangerous until within the past year to apply this remedy to the face or scalp, but now it has been fully demonstrated that its employment in diseases of these parts is not only safe, but a sure cure for trichophytosis (ring-worm) chromophytosis (tinea versicolor) and many others that might be mentioned. Dr. W. T. Alexander (*Journal Cutaneous and Venereal Diseases*) speaks of having successfully treated fifty cases of trichophytosis in one of the public institutions of this city, in which there was an epidemic. Great care should be taken to prevent dermatitis, a condition which often follows its application to the scalp, especially made bare by epilation or shaving, one or both of which should precede its application.

This condition is characterized by a peculiar pink discoloration of the skin, with swelling, congestion and tenderness; if this extends to or near the eyes, there may be slight conjunctivitis.

There is no reason why this remedy properly managed with the use of alkaline baths should not cure ninety per cent. of all cases of psoriasis, also any of the parasitic diseases.

While its use in chronic eczema is not so marked it is many times followed with favorable results.

Caffeine.

The *Therapeutic Gazette*, March 16th, says: A drug which offers at present a good field for study, and to which we desire to direct the attention of our readers, is caffeine. We have but little positive knowledge as to its exact action and value, but sufficient evidence to demand further trials.

When caffeine is given to the frog in poisonous doses, it produces primarily muscular weakness and relaxation, with disturbances of respiration, succeeded by violent tetanic convulsions and finally death. Various experiments have been made to determine the methods in which it acts upon the animal, but with some-

what contradictory results. The recent researches of Leblond indicate that at least some of these differences depend upon the size of the dose. It appears to be now well proven that the alkaloid has an action both upon the spinal cord of the frog, and also upon the muscles themselves. It is well known that a peculiar muscular rigidity is produced by it, and some years since Johannsen pointed out that when the caffeine is hypodermically injected, as it diffuses itself, rigidity spreads from the point of injection, from muscle to muscle; and Voit has determined that the development of the rigidity is not prevented by section of the nerve. Both the paralysis and the muscular rigidity are a result of a direct action of the alkaloid upon the muscle. The elaborate studies of Leblond seem to prove that there are at least two stages of the action of caffeine upon the frog. In the first of these the muscular excitability is exaggerated, and a momentary excitation of the nerve is followed by a prolonged tetanic contraction. The final stage is that of rigidity and lost excitability. The action of caffeine upon the muscle is readily demonstrated by throwing an isolated gastrocnemius into a one-per-cent. solution of the alkaloid; in from two to three minutes the muscle becomes swollen, round, stiff, and unable to respond to the galvanic current. That it is the muscle fibre which is affected is shown by an experiment of Pratt, who found that when an isolated muscle is soaked in a solution of curare until the nerves are killed, and then thrown into a solution of caffeine, the usual rigidity is developed. Johannsen states that when a muscle under the microscope is touched with caffeine, its fibres can be seen to contract to half their length. It is hardly necessary to call attention to the similarity of this effect to that produced by veratrine.

Both Pratt and Leblond have found that section of the cord higher up does not prevent the convulsions in the frog; they are therefore not cerebral. Both Pratt and Leven also found that destruction of the spinal cord prevented the appearance of the convulsions, so that probably caffeine acts as a spinal stimulant. The results of various experiments show that the motor nerves are not affected; but there is some reason for thinking that the alkaloid stimulates the sensory nerves. Leblond first noted marked hyperæsthesia in the frog, and according to Rumpff insensibility of the skin can be demonstrated in man under the influence of caffeine. In the experiment of Pratt, when the left sciatic nerve of the beheaded frog was surrounded by a paste of theine and water for ten minutes, a slight irritation of the right foot produced reflex movements, but failed to elicit response when applied to the left foot.

The most important action of caffeine is, however, in connection with the circulation; unfortunately we have no careful studies of its effect upon the pulse in healthy man. One case of poisoning by it has been reported by Routh. A man took a drachm of the pure citrate. The symptoms developed at once. They were burning in the throat, giddiness, faintness, nausea, numbness and tremor of the extremities; distinct pain in the stomach and bowels, profuse diuresis, and, finally collapse, great cardiac oppression, and icy extremities. Consciousness was not impaired, and headache did not develop until the patient began to recover.

Both Leblond and Professor Riegel are in accord in affirming that given to healthy man in the doses of from half to one gramme hypodermically, caffeine

causes a distinct, but not very pronounced increase in the arterial pressure. Professor Riegel especially made an elaborate study of its action in a number of cases of disease, including valvular heart disease with failing compensation, myocarditis, fatty heart, nephritis, adynamic pleurisy, etc. He states as his conclusion that caffeine is a heart-regulating drug in the sense of digitalis, and that it increases the force of the heart, lessens its irritability, and increases the arterial pressure; that it acts very powerfully and quickly in increasing the flow of urine, and is capable of fulfilling all the indications to meet which digitalis is employed; that it separates itself from digitalis in acting much more quickly, and having no cumulative effect; that it is best given in repeated small doses, and that he has seen it successful when digitalis has failed. These conclusions have been substantially confirmed by Dr. Beecher, who states that it has more influence in lowering the pulse rate than is affirmed by Professor Riegel; that it deserves to be placed in the first rank among diuretics. In a few of Dr. Beecher's cases, owing to idiosyncrasies, it caused headache, great vertigo, and vomiting, and had to be withdrawn. Dr. Beecher gives from eight to thirty grains of the pure citrate in the twenty-fours, beginning with a small quantity and rapidly increasing until the desired result is obtained.

In the number of the *Medical News* for January 21, 1885, Dr. E. T. Bruen has a paper in which he reports five cases of various forms of heart disease, some of them valvular, and some of them simply of the walls, in which excellent results were obtained by the use of caffeine. He claims, however, that whilst caffeine is a powerful cardiac stimulant, it does not act as a cardiac regulator, as digitalis does. It is not very clear what he means by this, but probably he intends to convey the impression that it does not lower the pulse-rate as much as does digitalis. He considers it superior to digitalis in cases of extreme cardiac diseases, whether of the valves or heart walls. In his experience, the objections to its use are the gastric irritation, pain and vomiting which it occasionally provokes, and which may be avoided by the hypodermic administration. These disagreements with the stomach must, however, I think, be very rare. I have myself used caffeine to a limited extent in excessive cardiac diseases, especially in dilatation with presumed degeneration of the walls, and have seen most marked effects from it. To my thinking, it bids fair to be one of the most useful of drugs. Disagreements of the stomach and failure of good results may be expected from impurities in the article as kept in our drug stores. In one case under my care, the patient was put upon Merck's caffeine, with the most favorable results. The caffeine was then changed for an article purporting to be pure, and sold at one of the most prominent of our Philadelphia drug stores. It was noticed, however, that the specimen lacked the peculiar silky lustre which is so prominent in the pure caffeine; and it failed entirely to maintain the good which had been achieved. When, however, the Merck's caffeine was resumed, the bad symptoms were, for the second time, immediately ameliorated. There is no difficulty whatever in administering the caffeine in powder, enclosed, if it is desired, in capsules, or in "*cachet de pain*." Or the caffeine may be readily made into pills.

It is said that most of the soluble salts of caffeine are decomposed in the presence of water, and are, therefore, ineligible for hypodermic use; the double benzoate of sodium and caffeine has been proposed as moderately stable and free

from irritant properties. One equivalent of salicylate of sodium will also cause the solution of one equivalent of caffeine, and the following formula has been commended by M. Tanret for hypodermic use:

R. Soda salicyl.	31 grammes.
Caffeine	40 grammes.
Aqua. destillat.	60 grammes. M.

In order to avoid gastric irritation, it is best to administer caffeine after meals.

The action of caffeine upon the circulation has not been sufficiently studied to enable us to reach positive conclusions. It can hardly be doubted that it has a direct influence upon the heart, although that viscus continues to beat after the cessation of respiration in animals poisoned by the drug. According to Voit (quoted by Brill), in the frog the rapidity of the cardiac pulsation is at first increased, but the pulsations become slower and slower, and are accompanied by irregularity of rhythm, the heart finally ceasing to act, but still responding to stimuli at a time when the voluntary muscles are absolutely dead. Falk, Stahlmann, and Johannsen observed that caffeine first increases, then lessens the frequency of the cardiac pulsations in the frog. According to Johannsen, the lessening of the frequency comes on the more quickly and more powerfully as the size of the dose is increased. By and by, the heart begins to beat irregularly, with short intermissions, which, as time goes on, grow longer and longer, and at last movement ceases. Johannsen found that the heart of the frog was similarly influenced, whether it was cut out or in situ.

Aubert and Haase (*Pfluger's Archiv.*, vol. 5, p. 608), find that the action of the alkaloid upon the pulsations of the frog's heart varies greatly, and, indeed, the individual experiments of the authors previously quoted will show such variation. This is affirmed by the research of Dr. Rioschiro Maki (*Ueber den Einfluss des Camphers, Caffeins and Alkohols auf das Herz*, Strassburg, 1884), who experimented on the cut-out frog's heart with the Williams-Ludwig apparatus, and found that the pulse was variously affected. In most of his experiments the arterial pressure, i. e., the heart's work, was markedly lessened, but in a few cases it was distinctly increased. It would seem as though small doses of the alkaloid stimulated the frog's heart, and large ones depressed it.

Upon the heart of the mammal, so far as can be judged from the present evidence, caffeine acts more powerfully than upon that of the frog. Leven found that in the first stages of the toxæmia, both the pulse and the arterial pressure were markedly increased. In a series of experiments upon dogs, Aubert (*Pfluger's Archiv.*, vol. 5, p. 612), found as an almost constant effect that the drug produced an increase in the pulse rate, with a marked lessening in the height of the pulse wave. There was also marked fall of the arterial pressure, which, with the small pulse wave, Aubert believed to be the result of the direct action of the drug upon the heart walls. These experiments were made with very large amounts of the alkaloid injected into the jugular vein; in most cases, the animal being kept alive by artificial respiration. In one experiment there was a very distinct rise of the arterial pressure (*Loc. cit.*, p. 615. vol. 5; *Archiv*, vol. 9, p. 36).

Prof. Binz (*Archiv. f. Experim. Path. u. Pharm.*, IX., 37) made two experiments upon dogs; in one of them the alkaloid was given after section of the vagus. In each case there was a very distinct rise of arterial pressure. Maki made a number of experiments, and found that large doses were followed by a distinct fall of the arterial pressure. In most cases he failed to obtain a first rise of the arterial pressure; but as his experiments were made upon animals that had been chloralized or atropinized, they are of comparatively little value. Aubert (*loc. cit.*, p. 617-18) found that after section of the vagi the frequency of the pulse was still increased by caffeine, and that galvanization of this nerve failed to arrest the heart's action. The most important evidence indicative of a stimulating cardiac power in the drug is furnished by Leven (*loc. cit.*, p. 184), who asserts that after he had divided the pneumogastriacs and sympathetics, and isolated the heart from all connection with the nerve centres, an administration of caffeine increased both the heart pressure and the pulse rate.

This summary comprises all the experimental evidence that we have in regard to the action of caffeine upon the circulation. It is very evident that at present no positive conclusions can be reached, and that further researches are imperatively demanded.

A case of poisoning by coffee is reported by Dr. Curschman (*Deutsche Klinik*, 1873, 377); a woman, in order to produce an abortion, took a decoction made from about eight ounces of freshly-roasted coffee. The symptoms are said to have commenced in about a quarter of an hour. The patient was first seen two hours after the injection of the dose, and she was found in a condition of great anxiety, with a feeling of impending death, and a sensation of intense need for air; she was exceedingly restless, and continually attempted to get up from her seat, but was unable to, being powerless to rise. All the extremities, but especially the hands, were affected with very pronounced choreic tremors. She knew persons and her surroundings, but her cerebration was very much affected, and the next day she remembered nothing that had happened at this time. The respiration was quick, 24 and 25 per minute, and short; the pulse 112, the heart beats very strong, even violent. Later there were the same sensations. One hour after the ingestion of the dose, violent diarrhœa set in and continued until the next day. The passages were very thin and watery, with but little violent pain, but with tenesmus. Every quarter of an hour the patient was forced to urinate, with marked tenesmus of the bladder. The urine was greatly increased in quantity, with specific gravity of 1014.

Professor Binz affirms that in susceptible persons he has seen similar symptoms; cardiac palpitation, violent tremblings of the extremities and choking sensations in the throat, produced by doses of about four grains of caffeine. We once saw five grains of caffeine cause symptoms of cardiac distress.

IV. GENERAL MEDICINE.

A Proliferous Vaccine Virus.

The *London Med. Times* (April 11), says: Under this designation M. PAUL DIDAY relates (*Lyon Médical*) a curious case which came under his notice. Four months ago, a fine healthy girl 11½ months old, was vaccinated with some animal vaccine virus, which had been forwarded in glasses by the agency of the Lyons municipality. The inoculation was made by two punctures on the anterior part of each thigh. Fine pustules which were produced, ran the usual course, and no lymph was taken from them. All went on well, when 60 days afterward it was observed around the cicatrices, then recently formed, that a coronet of hairs had sprung up, which at first thin and downy, soon increased in length, substance and color. So they continued without any tendency to fall or decrease, and when M. Diday saw them four months after the vaccination, they offered the curious spectacle of double and triple uninterrupted range of hairs surrounding each of the still reddened cicatrices. From six to eight millimetres in length, in color they resembled those of a red cow, contrasting with the child's smooth and delicate skin. On examining the plates between which the lymph had arrived, three or four small hairs were discovered adhering to them.

The Genesis of Cancer.

The *Lancet* says: A marked increase in the death-rate from cancer during the latter part of the present century has for some years occupied the minds of several well-known pathologists in endeavors to reveal its cause. There is a pretty general agreement with regard to this disease, that it is prone to arise out of prior morbid states which do not appear to be directly or necessarily related to it. It is evolved as a successor to innocent tumors, or in the track of an old inflammatory lesion. It rises apparently *de novo* out of mere senility or exhaustion of tissue, its permanently rudimentary type representing the best efforts of wearied nature to make good the daily wear of more perfect structures. On the other hand, cases occur in which, without impairment in any visible degree of vital power, the energy of some local irritant appears to master so completely the normal process of growth as to maintain its elements in the exuberant imperfection of the malignant tumor. Manifestly the same irritant acting on weak tissues is still more likely to work out its pernicious consequences. If we admit, therefore, as we consistently may, that tissue exhaustion, the result of toil, anxiety, or privation, and whether inherited or directly induced, affords a sufficient basis for the development of cancer, we need not look far into the history of our laborious age to find an explanation of a rise in its death-rate which at first may seem to be anomalous.

Epilepsy.

Before the Sheffield Medico-Chirurgical Society (March 12, 1885): Dr. PORTER read a paper on epilepsy. After reviewing briefly the theories which had been put forward to explain the phenomena of an epileptic fit, especially those of Drs. Hughlings Jackson and Gowers, he quoted from notes of twenty cases, which had come under his treatment, among a total of 841 out-patients, at the Sheffield Public Hospital and Dispensary last year. Of these, eleven were males, nine females. In three cases, there was a family-history of epilepsy; in two, of insanity; and in four, of other nervous disorders, making a total of nine out of twenty cases in which there might be inferred an hereditary tendency to brain-affections. The fits occurred for the first time, in a very large proportion of these cases, either between ten and twenty years of age, or after thirty. As to the exciting cause, two cases were attributed to head-injuries, four to sudden shock or mental trouble, one to onanism; two originated with pregnancy, one at the commencement of menstruation, and one at the menopause. In reference to the connection between epilepsy and uterine neurosis, Dr. Porter referred to Professor Charcot's description of so-called hystero-epilepsy, and contended that in those cases, at all events, in which the hysterical and epileptiform paroxysms occurred together, the epileptic characters were more simulated than real; he deprecated the use of the term epilepsy in the nomenclature of this class of affections. In six cases out of twenty, Dr. Porter met with a distinct aura, and in four more there were distinct premonitory symptoms. In enumerating the drugs he had found most serviceable, he laid special stress on hydrobromic acid in drachm-doses. Sodium-nitrite he considered a very dangerous drug, from what he had seen of it, in epilepsy. Dr. Porter considered that the proposal to introduce such an operation as ligature of the vertebral artery for epilepsy should be received with the greatest caution.

Salicylic Paper.

The *British and Colonial Druggist* says that any white absorbent paper is suitable for the purpose, but the particular kind to be used must depend somewhat on the special object for which it is intended. Thus, for covering honey, preserves, milk, cream, or similar articles, ordinary English white filter—or blotting—paper answers well; but for butter, fresh meat in small pieces, or delicate fruit and vegetables a less "tender" paper should be selected; whilst, if required for wrapping up large joints of meat and the coarser fruits, etc., a still more substantial material must be chosen, such, for instance, as a stout, unpressed, "printing" or soft white "sugar paper." It is almost essential that the paper employed should be unglazed or practically without sizing of any kind.

Any convenient quantity of salicylic acid is taken and divided into two equal parts; one of these is then dissolved in the following solution previously warmed:

Sulphate of sodium, 30 grains. •
Biborate of sodium (borax), 50 grains,
Water, 1 fluid ounce.

The solution should be poured hot upon the acid, with constant stirring, not much more of the liquid being used than is needed to effect a complete solution.

The other half of the acid is meanwhile to be digested in a little warm glycerine diluted to the density of about 1.100 or 1.150, one-third more glycerine than has been found requisite to effect the solution of the acid being subsequently added. Both solutions may then be mixed together, water being cautiously added, until the strength is equal to from 3 per cent of salicylic acid for the thicker, to 5 per cent for the thinner papers. Should any crystallization or precipitation of the acid occur, glycerine must be added by degrees until it is again taken up and the liquid becomes perfectly clear.

The papers to be impregnated should be immersed one by one in a large shallow dish or pan about two-thirds filled with the solution, somewhat in the same way that paper is "salted" for photographic purposes. If the solution be used rather warm, say about 140° or 150° F., four or five minutes' soaking will be sufficient; but for the thickest and least pervious paper a somewhat longer period is advisable. If the liquid be used cold, fifteen or twenty minutes is not too much time to allow for maceration before taking out the sheets, draining them, and hanging them up to dry, which latter operation is preferably completed in the sunshine, before a fire, or in a cool oven.

These salicylic papers may be kept in a cool dry place, pressed flat between the leaves of a book or portfolio, or rolled up tightly for any length of time without deterioration, or loss of preservative strength.

A large number of articles of food and drink, and of animal and vegetable substances, ordinarily liable to fermentive or putrefactive change, may be prevented from decomposing for some time by the judicious use of salicylic paper, which we have known to keep free from "mould" for several months some badly-prepared ext. taraxacum, which without it invariably showed symptoms of the development of *Penicillium* within a few days.

Malt as Food.

Dr. J. MILNER FOTHERGILL thus writes in the *Lancet*, April 4, 1885: Malt as food has a great future before it. In the process of malting (which is a rapid germination) a distinct change is brought about in the seed. By the action of the diastase the insoluble starch is converted into soluble dextrine, which goes sweet into the mouth, so near maltose is it. The malt-combings, which are too rich in albuminoids for the brewer's purposes, are useful when malt is looked at as a food. Malt contains dextrine (some diastase), soluble albuminoids and phosphates, and when ground is an admirable food, while it is not expensive. Its taste is pleasant. It can be made into a pudding with an egg and some milk, and as such is palatable. It can be made a constituent of a milk pudding with advantage. When the brewer mashes his malt with hot water, the diastase remaining in the malt converts the dextrine into maltose, which the yeast (next added) breaks up into alcohol and carbonic acid gas. The best white malt is not heated to more than 190°, as the diastase is acted upon injuriously by a heat above that point. Maltose is a sugar which does not readily undergo the acetous fermentation, and, therefore, as Dr. Mitchell Bruce points out in his "*Materia Medica and Therapeutics*," "will not give rise to acidity and dyspepsia." This is a great matter, as the cane sugar the cook adds to stewed fruit and milk puddings readily undergoes the acetous fermentation in many stomachs. The *lævu-*

lose sugar of fruit, like maltose, readily undergoes the alcoholic but not the acetic fermentation. Maltose being less powerfully sweet than cane sugar, a greater quantity is necessary to sweeten the pudding. If the raw starch, semolina, sago, or tapioca, be first put in the dish by itself, and placed in the oven for an hour (taking care not to have it burnt by the oven being too hot), not only are the starch-cells cracked, but a certain conversion of the starch into dextrine takes place. If to this be then added an equal quantity of ground malt and some hot milk poured on, and the dish be allowed to stand a few minutes before being put into the oven again, the diastase of the malt acts upon the farina and converts it into dextrine and maltose. Dextrine and maltose being soluble, the pudding is very thin. Such a pudding is admirably adapted for invalids and dyspeptics, as requiring scarcely any digestion in the body. For those with whom ordinary milk puddings produce acidity, such a pudding is specially suitable. Ground malt may be added to fresh milk, and forms an admirable food in cases of acute disease. Baked flour perhaps goes better with meat broths, to which it gives a high food value. (Well-baked flour requires but a touch of saliva to render it soluble, and, added to meat broths and gravy soups, renders them very nutritive.) Malt, being sweet, goes better with milk, or apple-water, or tamarind-water, or lemonade, and gives us a food which being all but independent of the digestive act, can be most usefully employed in the sick room. Beef-tea (which alone is scarcely a food) and milk-and-seltzer water pall upon the palate of the sick person, who craves variety just as do healthy persons. The adoption of ground malt as a food will solve for us one or two knotty questions connected with feeding people when the digestive power is feeble. Drinks like lemonade, made with malt instead of cane sugar, would not only not go sour in the mouth and stomach, but would contain some phosphates and soluble albuminoids, and so form admirable beverages in pyrexial states. The many malt extracts now in the market are well adapted for such end.

Snow Blindness.

Before the St. Louis Medical Society (*Weekly Medical Review*) Dr. WILLIAMS said that he would like to mention a matter coming in his experience the past winter. It was two cases of snow-blindness, which was quite rare in this section of the country, though frequent in mountainous regions where large quantities of snow existed. The first case was that of a laboring man who lived in Iowa. He was working for about six weeks in cold weather, the ground being covered by snow, the sun shining brightly. In a few days he noted a dimness of vision, which increased daily until he could not see at all. He then came to St. Louis for treatment. On examination Dr. W. found that his vision was about one-tenth. The fundus was not affected, but he noticed a redness of the optic nerve. He diagnosed the case snow-blindness. As far as he knew the remedy in such cases was strychnia. He gave the man one-thirtieth of a grain three times a day, which dose he increased to one-fifteenth, taken as before. In a few days, his vision improved and he left for home. Dr. W. did not exactly understand the nature of the trouble. Authorities state that snow-blindness was the result of exhaustion of the retina from over-stimulation. He desired to know if there was any treatment better than strychnia. The other case was that of a gentleman

who had been in Arkansas, and who rode on horseback considerably, the ground being covered with snow and the sun shining as mentioned in the preceding case. He found the reflection of the sun disagreeable and noticed that his sight became dim. The dimness increased daily. He returned home, but the snow on the street aggravated the trouble until he could no longer attend to his business. His vision also was about one-tenth. Both optic nerves were reddened. The man was a hard drinker and a great smoker which probably aggravated the condition still further. The whisky and tobacco were stopped and strychnia given. The man recovered.

Dr. Pollak had only seen one case of this kind, which was that of a man who had spent the winter in the Arctic regions. When he returned he was totally blind. Dr. P. had not an opportunity of treating the disease, as the party proved to be a hermaphrodite and could not be retained in the hospital which received him. The eyes had been examined frequently. He found the arteries of the optic papillæ small. The patient had no perception of light and the pupil would not respond to it. If he had had an opportunity of treating the case he would have used galvanism.

Dr. Williams said the literature on the subject was very scanty. The prognosis in both of his cases was favorable. He had corresponded with a man in the West who had suffered from a similar affection, which disappeared on his leaving the mountains, and avoiding the snow—the exciting cause. This man was also a hard drinker.

Dr. Hurt suggested a primitive method, not of cure, but of prevention, viz., a coloring of the surface of the face, in the vicinity of the eye with a black shading such as gunpowder or charcoal made from willows.

Dr. Meisenbach asked Dr. Williams whether other causes besides snow would not produce the same condition.

Dr. Williams thought not. He had heard that water would do so, but never knew of a case. He alluded to a gentleman present, who had used strips of wood with a small slit therein, very successfully. The idea was to restrict the vision to a small area.

The President remarked that the pathological condition in both cases was that the blood-vessels were enlarged, and that in Dr. Pollak's case, they were small. In addition to strychnia he suggested astringents, such as ergotine.

Dr. Pollak said that such agents would contract the arteries.

The President remarked that such was the effect desired, as he supposed that the condition was the result of over-stimulation of the retina accompanied by dilatation of the blood-vessels.

Inoculation against Cholera.

The *London Med. Record*, April 15, 1885, says: The pure cultivation of the cholera-bacillus causes the death of guinea-pigs in the dose of two cubic centimètres by hypodermic injection. Taking a number of inoculated guinea-pigs, and an equal number of non-inoculated, the first die or are rendered very ill, while the second group seem but slightly affected for about two hours. The local action of the anti-choleraic matter is limited to a slight tumefaction, which disappears rapidly without ulterior consequence. A drop of blood

from an inoculated animal, taken from a spot remote from the site of inoculation, gives the same microbe susceptible of being cultivated in series without losing any of its characters. This happens even if the blood be taken twenty hour after the inoculation. The cultivation-liquid filtered through porcelain (biscuit) communicates no disease capable of being transmitted in series.

Preventive inoculations determine in man the same local symptoms as in guinea-pigs. If experience in an infected locality were to show that inoculation confers the same immunity in man as it does in rabbits, Dr. Ferran affirms that the proceeding is so practical, that in eight hours enough material could be prepared to inoculate a population as large as that of Madrid. In guinea-pigs, complete immunity is obtained in forty-eight hours from the inoculation. He and Pauli have both been inoculated.

Finding that the virulence of the microphyte of cholera progressively and spontaneously diminished, Dr. Ferran ventured to increase the quantity of the cultivation-liquid injected in individuals submitted to its prophylactic action.* With the injection of a cubic centimetre of the cultivation endued with the greatest virulence which he was able to obtain, he observed very important phenomena, characterized in some individuals by the appearance in the blood of numberless minute cocci capable of being cultivated, greenish globules, and other amorphous particles, which were apparently the remains of pigmented elements. This infection of the blood only occurred in those individuals in whom the injection gave rise to symptoms, and not in those in whom the effects were localized to the site of injection. The general symptoms were: a more or less accentuated rise of temperature, prostration and abundant diuresis, nausea, vomiting, and chills. Dr. Ferran, trusting to the efficacy of the inoculation to which he had submitted himself, ceased to take in his laboratory any precautions to avoid infection. On January 18th he had two diarrhœal motions, such as might have been caused by a slight purgative, and to which under other circumstances he would not have attributed the least importance. It occurred to him, however, to examine them, when he found that they consisted of a pure cultivation of cholerigenic spirilla and loose commas, which, when cultivated, behaved precisely as the bacilli from cholera patients. Two days later, no traces of the microphytes were to be found in his dejections, nor did they exist in his motions previously. In the diarrhœal dejections he also noticed a few oögonia oöospheres, and spherical green corpuscles. This infection led to nothing, as the diarrhœa ceased after the second motion without medicine, and, according to the author, would appear to confirm the fact of the immunity from cholera of those inoculated according to his method.

The Heredity of Neuralgia.

Dr. JOHN G. KERR thus writes in the *Pacific Med. and Surg. Jour.*, May, 1885:

Probably no disease is treated more frequently by physicians in general practice than neuralgia in its various forms, and, without exception, no disease is allowed to pass with so little consideration. It has pain for its specific symp-

* FERRAN.—*Peronospora Ferrani*. (*Rev. de Ciencias Medicas*, and *El Siglo Medico*, March 1, 1885.)

tom, and as soon as this is relieved, the physician carelessly or thoughtlessly dismisses his patient, and is satisfied with a result which he knows is simply a temporary "stand off." The patient on the other hand, through ignorance of the nature of his disease, lives on with the hope that it may finally wear itself out; a hope which is seldom realized, especially if he has reached middle age. It is a disease having a family history like scrofula or phthisis in the majority of cases, and deserves, like these diseases, a prolonged course of treatment.

During the past three years, I have had the privilege of seeing many cases of neuralgia, and concluded, on account of the monotonous history given by all neurotics, to make special observations concerning its heredity, and to record each individual history, and that of the family as well.

Below are the first twenty cases recorded, without a single rejection. They are thoroughly reliable, and most of them are well known to me.

1st. Neuralgia of the first and second divisions of the fifth, in a man aged 60. No family history given. The patient himself suicided.

2d. Neuralgia of the trigeminal, and migraine, in a married lady aged 50, Father, brother and sister bordering on insanity, and all troubled with facial neuralgia.

3d. Migraine very severe in a lady aged 50. Father very eccentric, and finally insane. Aunt (paternal) insane; a sister also insane.

4th. Migraine in a married lady. Father eccentric; cousin bordering on insanity.

5th. Neuralgia of the facial in a young man aged 24. Father has sciatica. family scrofulous; patient himself has tuberculosis.

6th. Neuralgia of the fifth and of the cervico-occipital, in a young man; also phthisis. No history of neuralgia.

7th. Neuralgia of the first and second divisions of the fifth, in a young man aged 34. Mother and two sisters sufferers from migraine.

8th. Neuralgia of the fifth in a lady past middle age, who gives no neurotic history. She is the mother of twelve children.

9th. Lumbo-abdominal neuralgia in a man aged 50. Family neurotic and rheumatic.

10th. Neuralgia of the fifth in a young physician aged 26. Whole family afflicted in same way, and all very eccentric.

11th. Neuralgia of the cervico-occipital, and of the fifth, in a physician aged 35. Family history not given. Patient suicided.

12th. Migraine, severe, in a man aged 50. Father affected with neuralgia of the fifth.

13th. Neuralgia of the cervico-occipital in a young man aged 26. Mother affected same way. Phthisical history also.

14th. Migraine in a lady (married) aged 50. Family neurotic. Son died insane.

15th. Neuralgia of the fifth in a young man; very eccentric. Grandfather and two uncles insane.

16. Neuralgia of the cervico-occipital and first division of the fifth. No history of neuralgia given. Patient a hard mental worker; died from an attack of angina.

17th. Neuralgia of the fifth in a man aged 40. Mother and two sisters have migraine.

18th. Migraine in a young lady. Mother and two sisters affected in same way.

19th. Neuralgia of the fifth in a young man. Father also has neuralgia of the fifth.

20th. Neuralgia of the cervico-occipital in a lady aged 50. Father and sister both have neuralgia of the fifth. Neurotic family.

I have many more cases recorded, and all tell the same story as those already mentioned above. It will therefore be observed that the percentage of hereditary cases of neuralgia is as great as that of scrofula or tuberculosis. Several of these cases have, by constant treatment, recovered entirely, so that they have not been troubled for over a year. Some have been benefited greatly, and others have received no benefit whatever.

Aphasia.

The *London Med. Times*, (April 11, 1885,) says: Aphasia may be briefly defined to be the loss of language owing to cerebral defect. This requires some further explanation. Language is to be taken in its widest sense as the faculty possessed by mankind of giving expression to the thoughts, either by word of mouth, gesture, or writing. The nature of the cerebral defect matters not, provided that its seat be the same; and therefore aphasia may come on with sudden onset or gradually, it may be preceded by coma and accompanied by hemiplegia, (with almost invariable custom) of the right side, and sometimes by anæsthesia also, or it may alone signify to the medical man the existence of cerebral disease. and may be a possible forerunner of even more grave mischief in the near future,

The loss of language may be, as the name would naturally imply, complete, but all degrees of incompleteness are also included. Some patients cannot utter a single articulate sound; others repeat one word in reply to every question or to express every want; the vocabulary of others is more extended, and may embrace half a dozen words, possibly all belonging to the same class; others again, misplace their words or only the terminations of them, a not uncommon form being that the patient uses the same termination to all his words. The intelligence in all these varieties may be unimpaired, and the patient is often much put out that he cannot succeed in so expressing himself as to procure his wishes being carried out. One of the most curious phases of this affection is where a person forgets entirely some one or more languages that he has been in the habit of using, but retains the power of conversing in another language which, it may be, he has had no occasion to use for many years past. It is possible that in such a case a close enquiry would elicit the fact that this particular language had been learnt at a different time from the others, perhaps at an earlier period of the patient's life, and consequently the memory of it may have been entrusted to cells not in immediate proximity to those harboring the other languages since acquired, the function of the latter alone having been abrogated by the malady under which the patient is laboring.

It will be obvious that, notwithstanding an eminent English authority, the present writer has decided to make no distinction between amnesia and aphasia. In so doing he is supported by all the most recent and most distinguished French

writers, whose views have been very clearly summarized on this point in an excellent thesis lately published* which suggested the present paper. Amnesia, which really means loss of memory, cannot, it is believed, be usefully considered apart from aphasia, and it is for this reason that the definition of the latter term was made as comprehensive as possible.

Aphasia may be either sensory or motor. The former is the case when there is loss of the perception of spoken or written language; the latter includes the loss of articulate language, and of the power of writing. These various faculties may be lost independently, since they belong to different centres; but when the lesion is widespread they may co-exist. Word blindness consists in the inability to interpret the written symbols of language, and it is noteworthy that it may be present though the patient is able to recognize correctly the individual letters. It is invariably associated with either hemiopia or some concentric contraction of the field of vision. Moreover, it is always right hemiopia that co-exists with word blindness. Word deafness consists in the more or less complete loss of the recollection of the meaning of sounds; the patient is not deaf in the ordinary acceptation of the word, but is in the position of one who is addressed in a tongue with which he is not familiar. This is the least studied of the forms of aphasia, but in return it is the one from which recovery is most apt to take place.

Of the motor varieties, aphemia is the loss of the recollection of the co-ordinated movements necessary for articulate speech. It is at once the most important and the best-known form, being the most common. It is, in fact, the classic form investigated with so much care and success by Broca. Etymologically the term aphemia might be used, as it often has been, as synonymous with aphasia; but the writer of the present paper believes that the balance of advantages is immensely in favour of using aphasia in the widest sense. As has been already stated, aphemia may be present in any degree—from absolute speechlessness down to what hardly seems to amount to more than forgetfulness. It is worth bearing in mind that it is a symptom often assumed by the malingerer. Numberless synonyms have at different times been proposed for aphemia; a long list of them may be found in the thesis above-mentioned. Agraphia, the only variety which remains to be noticed, may be regarded as bearing exactly the same relation to writing that aphemia does to speech; in other words, it is amnesia of the co-ordinated movements necessary to writing. It is in every respect comparable to aphemia; indeed, the two often co-exist. It frequently passes unnoticed, owing to the co-existence of right hemiplegia.

The Comma-bacilli of the Human Mouth.

Professor W. D. MILLER, of Berlin, thus writes in the *Brit. Med. Jour.*, May 9th: The great interest which has of late been aroused by the comma-bacilli, and in particular by those of the mouth, appears to make desirable a more thorough discussion of the latter than has yet been published.

That curved bacilli, having an auger-like motion, are constantly present in the human mouth, has been known for years, some few even regarding them as the cause of caries dentium (Johnston's *Dental Miscellany*, 1879). The first attempt

* "De L'Aphasie," par le Dr. Bernard. Paris: Publications du Progres Medical, 14 Rue des Carmes.

to account for them was made by W. D. Miller, in the *Berichte der bot. Gesellschaft*, 1883; page 224. Miller then was of the opinion that they were only segments of the common spirilla of the human mouth, as he had observed such spirilla, which showed a division into comma- and S-shaped segments (see Fig. 20 der *Berichte*); a view which was at that time received with little favor, but which now might suggest itself to every one, after it has been abundantly proved that comma- and S-forms, and spirilla, may be only different stages of development of one organism.

After the report of Dr. Koch on the comma-bacilli of cholera Asiatica, Professor Lewis pronounced the comma-bacillus of the mouth, which I shall call *vibrio buccalis*, to be identical with the former; and, since that time, hundreds have made repeated attempts to isolate this organism. Having been at work on the fungi of the human mouth for nearly five years, I at once turned my attention to the cultivation of comma-bacilli; and, after months of continual experimentation, with all possible culture-media, I had come to the conclusion, adopted by others, except Dr. Klein, that the *vibrio buccalis* could not be cultivated on gelatine, or on any of the materials now commonly in use. Later, however, I took up the matter again, and, in two cases, succeeded in isolating comma-bacilli. The material was obtained in both cases from unhealthy mouths, showing chronic pyorrhœa alveolaris and hyperæmia of the gums. The material swarmed with comma-bacilli and spirilla. In the first case, the isolation was accomplished in a very novel manner. Examining a hastily-made dry preparation in water, I observed that a few of the comma-bacilli had not been killed by the staining process, and were moving about rapidly; while the many other forms in the specimen were deeply stained, and no doubt dead. I, therefore, had before me a pure culture of living comma-bacilli. After removing the cover-glass, I transferred the material to tubes of coagulated blood-serum, and, in 24 hours, had ten large colonies of beautiful comma-bacilli and spirilla, in pure culture. This process was repeated in other cases without success. In the second case, a small quantity of the material was placed in the centre of a flat drop of sterilized bouillon, and, in two or three minutes, tubes of blood-serum were inoculated from the edge of the drop. (The very active comma-bacilli soon distribute themselves throughout the drop, while most of the other forms remain in the middle.)

The bacillus or vibrio, obtained in these instances, grows very rapidly on culture-gelatine, whether neutral, slightly acid, or slightly alkaline. If a small quantity of a pure culture be taken into the mouth and allowed to become distributed through the fluids of the mouth, the bacillus may be isolated again with the greatest ease.

This fact seems to necessitate the conclusion that this is not the well known *vibrio buccalis* of the healthy mouth. It liquefies the culture-gelatine very rapidly, more so than the cholera-bacillus; and its colonies 24 hours old appear under the microscope perfectly round, greyish, and finely granular, with a sharp dark border. If cultivated on gelatine sufficiently acid to materially impede its growth, it forms a funnel-shaped depression in the culture-tube, through the evaporation of the slowly liquefying gelatine. The funnel also frequently appears in normal gelatine. The liquefied gelatine becomes equally cloudy throughout. In 36 hours, at 20° Cent., the gelatine in the second dilution is completely melted, and runs off the plate.

The form of the colonies, and the rapidity of growth, at once show that this organism is altogether different from the bacillus of cholera Asiatica.

In making plate-cultures from old pure cultures, I have often met with a comma-bacillus different from the above. Whether it is an altogether different and new comma, or only a modification of the other, resulting from the action of the products of putrefaction in the old cultures, I am unable as yet to say.

The colony 24 hours old has a tinge of yellow, is not round and even, but has a very rough, uneven border; it appears to the naked eye three to four hours later as a white speck half a millimetre in diameter, lying in the bottom of a depression; the gelatine remains perfectly transparent. Even when, after 48 hours, the whole plate becomes liquefied, the colonies, as large as a very small pin-head, float about in the otherwise but slightly clouded gelatine. Cultivated in gelatine, the bacillus has only a very slight curvature, but on agar-agar it cannot be distinguished from the other comma-bacilli.

I have on previous occasions referred to two other micro-organisms in the human mouth which produce comma-shaped forms; one is non-mobile, and does not liquefy gelatine; the other is mobile, liquefies the gelatine, and, in its manner of growth on the plate and in the tube, is very similar to that of the comma-bacilli; it also grows out into wavy threads of various lengths, which, however, could hardly be called spirilla. It is very commonly present in the human mouth, and is easily isolated; and in my many attempts to isolate the vibrio buccalis, I was, time and again, for a moment deceived, by the appearance of this organism, into thinking that I had really succeeded.

All these organisms, as well as the Finkler-Prior and the cheese-spirillum, are entirely different from Koch's bacillus; and the continual reference to them, even in medical journals, as an argument against Koch's theory, is astonishing. Even more so is the statement frequently made, that this or that organism is in its reaction upon gelatine "very similar" to the bacillus of cholera Asiatica. It is not a question of similarity but of identity, and arguments like the one cited are only calculated to deceive.

Whether the comma-bacillus of Koch be or be not the cause of cholera Asiatica, is not to be discussed here; but, if we wish to establish the identity of any organism with Koch's bacillus, it can only be done by showing that the morphology, method of growth, and action upon all the media commonly in use, are the same in the case of both; and even then we should not be too hasty in pronouncing upon the identity. I have two micrococci from the mouth, which, in their morphology, their growth upon gelatine, potato, agar-agar, blood-serum, and in milk, are identical, but which still are not the same, since one produces a coloring matter, and the other not. Two organisms which grow exactly alike on gelatine may be the same, probably are; but to say that they certainly are the same is scarcely admissible, any more than it is to pronounce silver and mercury identical because the salts of both give a white precipitate with hydrochloric acid. It is only when a number of different reactions prove them to be the same, that we can begin to speak of identity. As for the statement of Dr. Klein, that it is an easy matter to isolate the vibrio buccalis, I am unable to reconcile it with the assertion of many others, that this organism cannot be cultivated on gelatine; and I am anxious to know exactly how the isolation was accomplished, how often, and from how many different mouths.

Floating Minute Organic Matter in the Air and its Management, to Prevent Disease and to Mitigate or Control it, With a New Device for Atmospheric Purification.

Dr. DAVID PRINCE, of Jacksonville, Illinois, thus writes in the *St. Louis Med. and Surg. Jour.*, February, 1885 :

According to present knowledge, the organic objects floating in the air may be classified as :

1. The spores of objects, many of which are to be seen with low powers. These became familiar to the earliest observers with the microscope, as the yeast plant.—*Zymotic Agents*.

2. The spores and sometimes the developed forms of a class requiring higher and sometimes the highest powers to see them, which produce in nitrogenized organic material the phenomena of putrefaction, but have no power of attacking living tissue. As, bacterium termo, hay bacillus—*Septic Agents*.

3. The spores and sometimes the developed objects of a class generally requiring high powers for their observation, which produce, when introduced into living tissues, or their fluids, changes characterized by the phenomena of special disorders, as erysipelas, hospital gangrene, anthrax, tuberculosis, etc.—*Pathogenic Microbes*.

In the following named diseases, this contagium has been proved to be *particulate* and vital, capable of multiplying and perpetuating its kind when temperature and sustenance render it possible.

These are, various septic developments, and erysipelas, hospital gangrene, small-pox, diphtheria, gonorrhœa, Koch's septicæmia of mice, Davaine's septicæmia, chicken cholera, swine cholera, leprosy, Koch's malignant œdema, anthrax, actinomycosis, tuberculosis, relapsing fever, and Asiatic cholera. The last lacks the proof of successful inoculations after a series of cultivations.

From this it is probable that all other contagious and infectious diseases are originated and repeated by the action of similar particulate vital agencies.

The treatment of microbes in order to destroy them or render them inactive is (1) by heat not less than 150° F. (71° C), and some of them require 300° F. (148° C), prolonged and repeated; (2) by disinfectants which destroy the germs of the dangerous microbes, and by antiseptics which hold their development and activity in check without destroying them. An interesting illustration of this distinction is given by Dr. W. J. Miller, of Dundee, Scotland, in an article on contagium in the *London Practitioner* for September, 1884.

Dr. Dougal suspended the action of vaccine lymph by the incorporation of carbolic acid, but when, by exposure to the open air, the *antiseptic* had evaporated, the lymph was found to have been preserved unimpaired. According to this and some other observations, "Carbolic acid is not a disinfectant, not a destroyer of organic matter, but rather an antiseptic or preserver of organic matter, arresting and preventing putrescent and fermentive change, and suspending zymotic action for a time, leaving such matter unchanged after the volatilization of the antiseptic."

This distinction may be criticised, by saying that a strength of carbolic acid of sufficient intensity to hold back and paralyze the invaders, may be weak

enough not to injure the organisms to be preserved. In the case of vaccine virus, it is not injured by a strength of $2\frac{1}{2}$ per cent., though the putrefactive microbes are held in check. These microbes would quickly destroy the special contagium if not opposed by this or some other antiseptic. A stronger preparation of carbolic acid would destroy both invaders and defenders, and be a disinfectant. A strength of $\frac{1}{3}$ per cent. preserves bread pulp, and $\frac{1}{2}$ per cent. preserves broth and milk. Washing the hands in a 5 per cent. solution is thought to be the weakest solution capable of protecting the hands against receiving and imparting contagium, and this is far inferior to a solution of sulphurous acid. In the form of vapor, however, it is doubtful whether carbolic acid has any effect whatever, on account of its great dilution.

All the experiments which have been made with carbolic acid vapor are negative.

Among the disinfectants, Dr. Miller (above quoted) considers sulphurous acid (from burning sulphur) the most valuable of all. Its vapor destroys every microbe, whether zymotic, septic, or pathogenic.

Its gas permeates every crack in the walls of a room, and its solution is easily applicable to the surfaces of solid bodies. Its only objectionable feature is the difficulty of employing it in rooms while people are in them.

It is not necessary here to enumerate and compare even the principal antiseptics and disinfectants. Chlorine, hydrochloric acid, iodine and bromine, are powerful but difficult to manage.

Salicylic acid, boric acid, iodoform and mercuric oxides and salts, are excellent antiseptics for local application in the solid form, the choice among them being determined by circumstance and convenience.

AIR PURIFICATION.

We come now to another method of managing the subject. Taking a hint from the observations recently made in Paris, and quoted in the beginning of this paper, upon the effect of rainy weather upon the number of microbes floating in the atmosphere, it occurs to ask, whether or not it is practicable to subject the air entering an operating room to the influence of artificial showers, in order to precipitate to the ground the whole or the greater part of these enemies of surgery.

They are known to be heavier than the air, because they entirely disappear from the air within a tight box which has been for several months in one position. This principle of rest is of no use to us, for the purification of the air of an operating room by this means is impracticable.

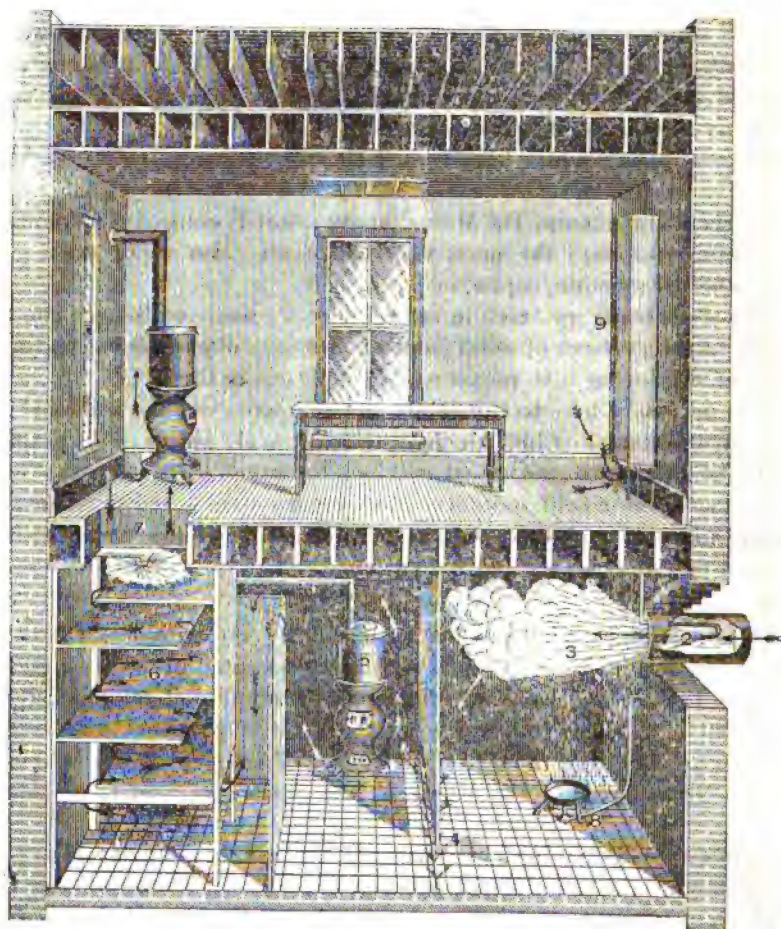
The dry filtration by means of cotton or other substances to entangle and arrest the particulate substances floating in the air, is not practicable on account of the rapidity necessary in the entrance and exit of the air in order to displace the agents entering from without during the progress of an operation, and those emanating from the occupants of the room. If, however, we can cause the air entering the room to pass through several showers of water, we have an expedient which may entangle these objects and carry them to the ground.

The following is a description of such a device :

1. BASEMENT.—On the right hand is an entrance ventilator, twenty inches in diameter, in which a steam jet is made to play in order to infiltrate the entering air with very fine globules of water. (2) (3)

2. The air thus moistened passes in the direction of the arrows under a curtain or diaphragm reaching within fifteen inches of the floor. Under this curtain lies an iron pipe with numerous small holes drilled in the upper side, furnishing an interrupted spray under the curtain, and making it necessary for all the moving air to pass through this artificial shower near to the floor and into the next room warmed by the stove seen on the left hand of the diaphragm or screen. (5)

FIG. 1.



Basement below and Operating Rom above—Scale, one to sixty.

3. The air, thus warmed, passes through a filter, composed of shelves of thin muslin through which water is dripping. The warmed air first passes over the top of a vertical screen to avoid the entrance of cold air, then under another vertical screen, and then back and forth between horizontal screens fifteen inches apart, dripping with water and finally through the spray which supplies this water. (6)

Thus there are three filtrations of the air, one by steam and two by water.

4. The air thus filtered three times, emerges through an opening in the floor and goes to the top of the operating room above. (7)

5. **OPERATING ROOM.**—The exit ventilation is seen on the opposite, or right hand side of the room, in the direction of the arrows. This is effected by a movable

shaft or box, made by tacking muslin upon a frame, so that it can be set up against a window, with the upper sash pulled down to the necessary degree. The shaft can be shifted from one window to another to be free from the pressure of the wind, or on the opposite side, or from the wind. The arrangement thus far, is to get an atmosphere more pure than that outside, and through the frequent change of the air in the operating room, to get rid, to the greatest possible degree, of the contamination of the air (during the progress of an operation) by the emanations from surgeons, assistants, spectators, and the patient himself. This change is secured by the entrance of filtered air from the basement and the exit, from the floor of the operating room, of the air which has been the longest in the room, having descended gradually from the ceiling where the air is hottest, after having entered from the warming chamber below.

6. The floor of the operating room is made of yellow pine, and filled with paraffin to as great a depth as heated smoothing irons can drive it. By this means, all cracks are filled so as to be non-absorbing. Under this, lies a layer of tarred paper upon a common floor upon the joists. Between the joists lies a layer of tarred paper upon the ceiling the under side of which ceiling is painted, and lined with muslin while the paint is fresh. The muslin is again painted on the under side. The floor thus has seven layers, including the joists.

7. The operating room is free from closets where anything unclean can be hidden, and all wood work is either paraffined or painted.

8. There is no opening into any other room; about six feet of space intervening between the door of entrance and the nearest wall of the main building.

9. Before the use of the room for an operation involving the operation of a joint or the peritoneal cavity, it is intended that the rooms above and below shall be fumigated by sulphur burning in the basement. An iron pan for this purpose is figured in the cut (8) resting over a Bunsen burner for the combustion of sulphur. This is to done for the destruction of any floating material of an organic character which may have gained entrance while the room may have been out of use.

It is found by trial that when the different sprays of water are going, one can remain very comfortably in the room above while sulphur is burning in the room below; the fumes being first absorbed by the steam and having then to pass through the two different showers of water become thoroughly percipitated.

10. This building is the execution of a theory combining the best known expedients for securing the best possible atmosphere for surgical operations, by excluding noxious agents and by destroying or expelling those which may have stolen in, or which may be introduced by the patients, or by the surgeon and his assistants and guests. It is supposed that enough air will enter and escape to change the whole volume of the air once in fifteen minutes. The exit draft coming from the floor will carry away most of the floating material.

11. The employment of a spray or douche of carbolic acid of the strength of 4 to 100, or of mercuric bichloride of 1 to 10,000, or other antiseptics, locally applied, though less necessary than in an ordinary room, may yet be resorted to in order not to omit any useful precaution.

12. The employment of solutions of carbolic acid, mercuric bichloride or permanganate of potash with the nail brush for cleaning the hands should be supple-

mental to the fixed provisions against septic and pathogenic particulate infection.

13. The bathing of the instruments in carbolized water, while this proceeding is incapable of disinfecting or destroying any germs which may adhere to them, may yet be useful in an antiseptic sense *i. e.* by destroying microbes in a developed state or freeing them from the supposed secretion by which they may be surrounded, and which may serve as their weapon of attack by which they digest or destroy the surfaces with which they come directly in contact.

14. A useful precaution on the part of the operator may be a bath and a change of clothing, the hair and head being dampened so that dust will not escape from them; and yet another precaution may be the wearing of gowns which will oblige all dust escaping from the clothing of the operator and his assistants to fall to the floor whence it may escape with the draft which carries out the lowest stratum of the air.

NOTE.—The construction of an operating room on the principles here explained in a hospital already built, without erecting a detached building, would require that two rooms should be taken, one above the other, and if the upper one can have a skylight it will be of great advantage. The lower room might be in the basement with a shaft not less than (3) three feet in diameter extending to the upper room which might be under the roof for the advantage of a skylight. All communications must be closed by brick and mortar and an entrance opening made in the outer wall, the approach being secured by means of a platform on the outside of the building, so that it must be unavoidable to go into the open air for entrance and exit. The lower rooms should be equally shut off from communication with the other rooms communicating.

V. CLINICAL MEDICINE.

A Case of Peculiar Tremor of the Hand and Forearm.

In the *Australasian Med. Gaz.*, January, 1885, Dr. SHEWEN reports the case of a man, aged 50, who injured his arm whilst shifting some timber. A log weighing about 8 cwt. rolled on to the man's forearm, and two or three minutes elapsed before he was able to free himself. The accident happened in the morning. He rested from work that day, but resumed his occupation the next day without any trouble; and continued his labor for about three weeks. He then noticed that his hand began to shake, and, as he was using a circular saw, he gave up work, fearing lest he should injure himself. Dr. Shewen saw the patient ten months after the accident; the arm did not always tremble, but tremors could be produced at any moment by pressing on the median nerve at any part of its course.

Cases of Splenic Enlargement.

In the *Med. Press*, May 6, 1885, Dr. PORTER describes two cases of enlarged spleen. In one the child, a year and ten months old, had a large hydrocephalic head, with wide fontanelles, and all the symptoms of rickets. The spleen was of enormous size, occupying the greater part of the abdominal cavity, but placed obliquely, so that the lower end extended into the right iliac region. In the other case the diagnosis was less obvious. The history was one of rapid enlargement since last Christmas, the spleen, at the time the patient was shown, extending downwards as low as the level of the left anterior-superior iliac spine, and forwards as far as the umbilicus, close to which the sharp, free anterior border and notch of the hilus could be felt most distinctly. When the patient was admitted into the Sheffield Public Hospital and Dispensary under Dr. Porter a month before, very distinct friction fremitus could be felt, and friction sounds heard over the tumor, there being then considerable pain and tenderness on manipulation. These symptoms had since disappeared. The surface of the tumor was smooth, firm, and uniform. The patient, a forgerman, æt. 24, had suffered from caries of the spine since he was eight or nine years old, but had never been incapacitated from work in consequence, having followed his employment to within a week or so of his admission into hospital. He had marked angular curvature, and was suffering from chronic bronchitis of three years' standing. He had never had any abscess or prolonged discharge of any kind: there was no history of syphilis, inherited or acquired. There was no cachexia; nothing abnormal in the blood, which had been submitted to a microscopic examination. There was no enlargement of the liver, or kidney symptoms. With the exception of the bronchitis, the patient's health had been fairly good, and he was fairly well nourished. Dr. Porter concluded that, though of such rapid

development, the splenic enlargement was probably of an amyloid nature, the sequel of the bone disease from which the patient had suffered.

Treatment of Ringworm of the Scalp.

Dr. HENRY J. REYNOLDS thus writes in the *Jour. Am. Med. Ass.*, April 4, 1885: The disease being of parasitic origin, and the deep structures—hair follicles, etc.—being involved, the treatment, in order to be effectual, must be such topical application as will be capable of destroying the parasite, and must likewise be used in such a form or way as to penetrate to the bottom of the follicles. Any of the ordinary parasiticide remedies may be used, and are capable of curing the disease, provided the remedy come in contact with parasite. But this is not always so easy of accomplishment, and to facilitate matters epilation, or the removal of the hairs, has been practiced, with a view to allowing the remedy to penetrate to the bottom of the follicles, and with apparent advantage in stubborn cases. Among the remedies used may be mentioned the various preparations of mercury, iodine, sulphur, chrysarobin, pyrogallie acid, chloroform, ether, etc. The mercury may be applied in the form of the bichloride, grs. x to aqua ℥j; iodine in the tincture. The hyposulphite, or the sulphite of sodium, a drachm to the ounce of water, will be found one of the best remedies. In any case, before applying the remedy, the surface should be thoroughly cleansed by the free use of green soap and hot water. In this case we will apply a solution of chrysarobin 15 grs. to the ounce of chloroform, which should be thoroughly and frequently applied. The chloroform has a tendency to dissolve sebaceous and other fatty or gummy matters away, and thereby facilitate the penetration of the remedy down into the follicles. If this proportion seem to create irritation, the strength must be diminished. Care should always be taken to avoid contagion through the medium of combs, towels, brushes, etc.

Gastritis Favosa—A New Disease.

The *Lancet* tells us that at the meeting of the Vienna Imperial and Royal Society of Physicians on the 28th of November, Professor Kundrat exhibited specimens of a unique kind. The case was one of favus universalis which had given rise to an abscess of the thigh, and had terminated fatally from severe gastro-intestinal disorder marked by an uncontrollable diarrhoea. Numerous erosions mingled with diphtheritic swellings were found in the mucous membrane of the stomach, and the intestines contained some foul putrescent masses and much mucus. Professor Kundrat at once declared the diphtheritic swellings to be due to the favus fungus, a view which was confirmed on microscopic examination. This is the first recorded instance in which the mucorineæ have been the cause of death, as it is the first of favus of the stomach and intestines. Indeed, the naked-eye appearance of the tumours in the stomach closely resembled the favus cups on the skin, and the fact that but little of the fungus was found in the intestines was explained by Professor Kaposi by their having undergone putrefaction in the bowel. The patient had previously been shown to the Society by Professor Kaposi as a rare instance of favus, which covered the entire body, affecting even the finger-nails (attributed to his habit of scratching himself con-

stantly). Favus of the stomach is as unknown a condition in animals as it is in man; at any rate, Professor Csoker, of the Vienna Hospital for animals, stated that it never occurred in cats, although these animals frequently eat rats infested with the fungus. Professor Bamberger suggested that in this case the gastric mucosa was in an unhealthy condition at the time of infection, thereby affording a favorable nidus for the growth of the fungus. It must be borne in mind that the mucorineæ, unlike the schizomycetes, can thrive in acid liquids, and may therefore grow with impunity in the stomach. The case is of great importance, as showing that if they do gain access to the interior of the body, these fungi may be a source of danger and lead to a fatal result, thereby disproving the usually accepted notion of their harmless character.

Report of Eight Cases of Diphtheria.

Dr. H. C. ALDERTON reports these cases in the *Brit. Med. Jour.*, April 25th, 1885:

Case I. A child, 2½ years old, when first seen, had membrane on both tonsils. The throat was painted with glycerine of carbolic acid, while perchloride of iron was given internally. The following day, there was membrane in the trachea; and, as the parents refused to allow tracheotomy, an emetic was given, causing the expulsion of a large plug. The patient, however, sank during the night.

Case II. A child, 12 months old, was seen for the first time during the night. It then had a small patch on the right tonsil, which was painted with equal parts of strong hydrochloric acid and glycerine, perchloride of iron being given internally. The patient only lived till the following morning.

Case III. A child, aged 2 years and 7 months, was moribund when seen, dying a few minutes after my arrival.

Case IV. A child, 12 months old, was seen with membrane on the back of the pharynx. Perchloride of iron was given, and the throat swabbed frequently with syrup of chloral-hydrate. The following day, the glottis was involved, but the parents refused to have tracheotomy performed, and the child died the same day.

Case V. A child, aged 1 year and 4 months, seen first with membrane on the pharynx and tonsils, was ordered sulpho-carbolate of soda with some aromatic ammonia in alternate doses with perchloride of iron. The throat was frequently swabbed with syrup of chloral-hydrate. The patient apparently recovered, but died suddenly on the ninth day, after disappearance of all symptoms.

Case VI., aged 5 years; VII., aged 3 years; and VIII., aged 6 years, were treated in exactly the same way as Case V.; all recovered.

Analyzing the above cases, we have four deaths due to the direct effects of the poison; one due to a sequela, namely, paralysis of the heart. These were all under 3 years of age. The remaining ones recovered, being 3 years old and upwards; of course, in proportion to the age, the powers of resistance were greater, but still the symptoms were materially modified by treatment. In all, the chloral removed the livid condition of the throat; the child breathed more easily after each application; and the pain caused by swallowing seemed less. But to what extent the sulpho-carbolate of soda influenced the disease, I am unable to say; yet the fact remains that only was benefit derived, or did recovery result, in those cases in which it was used. I should add, stimulants were used in all.

Sporadic Cretinism.

To the Clinical Society of London (April 24th), Dr. SIDNEY PHILLIPS exhibited the patient, and described the case. The patient was a child, aged $10\frac{1}{4}$, who had come under observation at St. Mary's Hospital. The parents were healthy, and there was no history of syphilis, tubercle, or rickets in the family. Two months previously to the birth of the child, the mother had received a severe fright from a fall of a child into a well. Labor was natural, and no forceps was used. The child exhibited nothing unnatural till nine months old. The child was now 2 st. 7 lbs. in weight, 2 ft. $7\frac{3}{4}$ ins. high. There were large masses of fatty tissue above the clavicles, the thyroid gland was absent, the voice croaking, the hair scanty, the head very large, the anterior fontanelle unclosed. There was marked lordosis, and the child, though able to walk, was unsteady on the legs. She was childish in intellect, but good tempered, and her mental condition was mainly remarkable for the extreme torpidity and hebetude. Besides these symptoms, the limbs and face were œdematous, but firm; they pitted on very firm pressure, but the pitting disappeared more quickly than in cases of dropsy. The hands were spade-like, the feet short and square, the limbs very much enlarged; the tongue was also enlarged. Dr. Phillips pointed out that, besides other signs of cretinism, there was here present a condition much allied to, if not identical with, the disease known as myxœdema. That the mental condition was somewhat different from that in myxœdematous adults, was accounted for by the early age at which it came on, before the mind had had time to become developed. It was pointed out that ten cases of a similar nature had now been recorded, two of them by Mr. Curling, four by the late Dr. Hilton Fagge, and one each by Dr. Fletcher Beach, Dr. Langdon Down, and Dr. Routh. On examining the records of these, it appeared that six of the ten cases presented signs, more or less marked, of an œdematous state; and Dr. Phillips pointed out that it was not, therefore, an exceptional occurrence in association with myxœdema, but must be looked on as part and parcel of the disease. Foderé's opinion, quoted by Sardinian Commission, that cretinous infants mostly became œdematous, bore this out. Experimental removal of the thyroid had been shown by Kocher to produce cretinism in human beings. In monkeys, Mr. Horsley had produced myxœdema by ablation of the gland; it was, therefore, to be expected that myxœdema would occur with other cretin-symptoms where the thyroid gland was deficient. There was no evidence as to what caused this deficiency of thyroid gland in the present case; but this was the third out of the ten cases in which there was a history of fright during pregnancy. The cause, whatever it might be, must have been transient and accidental rather than due to the locality inhabited, or the parents' health, since all the other eight children born of the marriage were perfectly healthy.

Convulsive Gaping.

The *London Medical Record*, April 15 says: A little girl 4 years old, of lymphatic constitution, subject to intestinal catarrh, was suddenly seized with deep, continuous, incessant gaping. The intestinal catarrh soon yielded to treatment, but the gaping, with which was associated a convulsive movement of the tongue,

a certain rotation with tendency to protrusion, did not begin to get better for a month, notwithstanding the administration of bromide of potassium, and did not finally cease until after two months from the beginning of the attack. Only two other cases, one by Coursserant and the other by Bellemant, are recorded, in which gaping figures as a pathological fact *per se*, and not as a transitory and secondary symptom in the course of other affections. Gaping, an expression of respiration with its two constituent periods in the spasmodic or convulsive state, probably remains a reflex act even when, as in the above case, it constitutes a pathological entity. But then the stimulus to the nervous centre must be sought in something different from the physiological stimuli, in defect of oxygen and excess of carbonic acid; and that in view of the law established by Natanson, according to which direct spasms are presented as permanent tonic muscular contractions, while indirect or reflex spasms are always represented by passing clonic muscular contractions. In the author's case, then, the gaping, as a reflex spasm, belonged rather to those due to excess of excitability of the reflex centres of the cerebro-spinal axis, than to those connected with excess of stimulus and increased excitability in the centripetal branches. Indeed, although these latter are more common from the facility by which they arise after any sort of excitement starting from the various parts of the body, yet the morbid conditions of the intestine, from their slight degree and their successive diminution and disappearance, in opposition to the aggravation and long duration of the gaping, would, rather than determine an increased excitability in the centripetal branches, better represent, analogously to what happens in hysteria, an exaggerated reflex excitability of the nervous centre. The nerve-centre interested must be the respiratory, gaping corresponding in its physiological mechanism to respiration, and taking place with the concurrence of the same muscles; the convulsive movement of the tongue also pointing to affection of the nucleus of the hypoglossal nerve. As to the nature of the alteration of this nervous centre, grave anatomical conditions could only be excluded after the cessation of the gaping which proved the alteration to belong to the so-called functional. The author concludes that gaping may constitute by itself a pathological fact; that in such cases it represents a special neurosis of the bulb, more definitely of the respiratory centre; and that, from the importance of the site affected, the affection is not exempt from danger.

Primary Renal Congestion.

From the *Gaz. Med. de Paris*, 14, 21, and 28 February, 1885, we learn that M. ALBERT ROBIN, in an able clinical lecture, delivered at the Hôpital de la Pitié, attempts to differentiate and to define this form of renal affection. He contends that the term Bright's disease should be limited to cases characterized by "albuminuria, dropsy or œdema, coexisting with a renal lesion," and that interstitial and arterial nephritis, amyloid and fatty degeneration, should not be included in it, and that the term should be confined to the lesions which are called parenchymatous. The affection is ascribed to exposure to cold following upon muscular effort. It is characterized by pyrexia, headache, general malaise, pain in the back, accelerated pulse; and sometimes there may be diarrhœa and even epistaxis. The pain over the kidneys is increased by pressure, and there may

be some diffused abdominal tenderness. More rarely there may be slight vesical sensitiveness or slight dysuria. There is never any œdema. The condition of the urine is the most important means of diagnosis. Its color is that of boiled beef with a reddish hue. It is rarely transparent, but usually cloudy or muddy. The odor is insipid, and resembles that of boiled bread. The reaction is acid. The quantity slightly diminished. The density varies from 1020 to 1026. On standing there is an abundant sediment of a brown or brownish-red color, and contains tube casts, which are hyaline or epithelial, some finely granular, others containing red corpuscles or pigment granules; also red corpuscles more or less altered; white corpuscles charged with pigment granules; some free cells of renal origin, also containing pigment; masses of amorphous black pigment; and sometimes uric acid crystals. Albumen is present from the outset, but its rapid disappearance is one of the characteristics of the condition. There may be slight and evanescent reappearance of the albumen during the course of the illness. The urine further gives the reactions of indican at the outset of the affection. The course of the disease is rapid. After some oscillations the temperature falls to normal, and the general symptoms diminish with or without a critical perspiration. The renal sensibility persists for some time longer. The indican reaction disappears. The urine regains its normal color, and the brown sediment disappears and is replaced by uric acid crystals. The more simple form of the affection lasts a few days; but a more severe form, spoken of as the typhoid form, lasts for about two weeks. All the cases he had seen ended in recovery. The condition is to be distinguished from catarrhal nephritis, which has a similar onset and rapid course marked by the presence of albumen; in the congestive form the urine always contains red blood corpuscles, pigment masses, and dissolved hæmoglobin, whilst it only appears exceptionally and transitorily and in small quantity in catarrhal nephritis. There is also commonly some slight œdema in the catarrhal form, never in the other. It is distinguished from paroxysmal hæmoglobinuria by the presence of blood corpuscles, and by a different clinical course. The treatment he has found useful is dry cupping over the loins, and abundant diluents, especially milk.

An Epidemic of Jaundice.

The *London Med. Record*, April 15th, tells us that Dr. LURMAN, of Bremen, reports an interesting account of an epidemic of jaundice in that town, in the *Berlin Klin. Wochensch.*, No. 2. The outbreak, which lasted from October, 1883, to April, 1884, occurred in a large ship-building and machine-making establishment in Bremen, on the bank of the Weser. Between 1,200 and 1,500 persons were employed, of whom only a few took their meals in adjoining canteens, while the rest either went home for their food or brought it with them. The adjacent soil was sandy; no structural alterations had been made in the buildings for two years—at least to a very slight extent; phosphorus was not used in the factory. A small stream joining the Weser here furnished the drinking water, which was repeatedly examined without finding anything wrong. No such epidemic had occurred here before. In the end of October, 1883, the first case of catarrhal icterus presented itself. By the end of November there were 33 such cases; 137 more were attacked in December; in January, 1884, 14; in February

and March, 5, and in April, 2 The whole number was thus 191, besides several cases which did not come under observation. During this period a few scattered cases occurred in the town, but not an extraordinary number for the time of year. The jaundice attacked masters, clerks, and workers indifferently. The disease began with the symptoms of gastric or gastric and intestinal catarrh, which persisted a week or more till jaundice appeared. The symptoms were epigastric oppression and fulness, anorexia, vomiting, faintness, etc.; there was usually constipation. Yellow vision only occurred in a few cases. The constipation was often succeeded by sharp diarrhoea when jaundice appeared. Physical examination showed a prominent and tender epigastrium, but no distinct enlargement of the liver was ever found, nor was the gall-bladder ever felt as a tumor. The whole process was a-febrile; the pulse was often retarded. The faces were always very pale at first, but soon became normal again in spite of existing or increasing icterus of the skin and conjunctivæ. Albumen was never found in the urine, nor biliary acids, while biliary coloring matters were easily shown by Gmelin's test. Cholemia only occurred in one case (cerebral symptoms, general dropsy with deficient urine, ultimate cure), and not one death took place.

Etiologically considered, no cause could be assigned, malarial or otherwise. A neighboring factory of 600 persons entirely escaped. Even bad or defective diet must be excluded, as no cases occurred amongst the wives and children of the men. As to the water, many never partook of the stream, but brought coffee with them. But a very curious connection was found to exist between the occurrence of the epidemic, and the fact that nearly all the persons in the establishment had been re-vaccinated in August, 1883. This occurred in three separate parts of the factory, which we will call A, B, and C. In A, 540 persons were vaccinated, 141 of whom had jaundice subsequently; in B, 466 persons were vaccinated, 35 of whom had jaundice; in C, 283 persons were vaccinated, 14 of whom had jaundice; afterwards 50 persons were vaccinated, 1 of whom had jaundice. Of 500 persons taken on at the work after this re-vaccination, not one suffered from jaundice. Again, 87 persons were vaccinated by other surgeons and with other lymph; of these not one suffered from jaundice. The re-vaccination was without effect in the majority of the cases, but its success or not was without influence on the jaundice.

In conclusion, the above epidemic was evidently an infectious disease, the virus of which was strictly limited both as to place and time, with a very long incubation period of two to eight months, and was causally connected with the re-vaccination, in some way or other.

The Influence of Season on Continued Fevers.

Before the Epidemiological Society (*London Med. Times*, April 25th), Dr. G. B. LONGSTAFF read a paper on The Influence of Season on Continued Fevers, with special reference to Typhus, Enteric, and the so-called Simple Continued Fever, illustrated by tables and diagrams showing the admissions from each to the fever and Asylums Board hospitals, the mortality in these institutions, and the total deaths in London for various periods. The diagrams representing these figures in the case of the three fevers named were drawn upon Messrs. Buchan and Mitchel's plan, which alone enables one to fairly compare the sea-

sonal fluctuations of several diseases when the actual numbers of cases of each disease differ greatly. The curves indicate the *percentage* deviation above or below the mean weekly or monthly average of deaths or cases, this average being shown by a number in the margin. After a historical sketch of the recognition of typhus and enteric fevers as distinct diseases, Dr. Longstaff reminded the Society that the late Dr. Murchison had always maintained that the deaths reported as from simple continued fever were really cases of enteric. He, however, found somewhat to his surprise that while there was not the remotest resemblance between the curves exhibiting the seasonal mortality from enteric and simple continued fevers, the latter corresponded so closely with that of typhus as forcibly to suggest that these were cases of unrecognized typhus, rather than of enteric. Enteric fever was a remarkably seasonal disease, above the average from August to December, and below during the rest of the year, except occasionally in January or February, reaching its maximum in October, and its minimum in May and June. Typhus began to rise in October, fully two months later, reaching its maximum in November; a second maximum was attained in January or February, and from May to September it was below the average, the minimum being usually in July and August. Simple continued fever showed a somewhat less sharp or abrupt curve, but like typhus began to rise in October or November, had a second maximum in January or February, and was at its minimum in August or September. The seasonal prevalence of scarlatina was almost identical with that of enteric. Since the death curves of the hospital and of the general population were nearly the same, Dr. Longstaff thought that the ratio of cases to deaths among the latter corresponded to that of admissions to deaths in the hospitals, and that we might infer the prevalence of a fever from the number of admissions.

Of late years a larger *proportion* of sufferers from all fevers, especially from scarlatina, seemed to have sought admission, judging by the increasing percentage of the total deaths now reported as occurring in these institutions. The mortality from typhus in London, which from ten to twenty years ago amounted to hundreds, had steadily declined, until for the last half dozen years it had averaged not more than sixty. The mortality from simple continued fever had done the same; but enteric fever, though declining in the country at large, was as fatal in London as it was fifteen years ago. There could be little doubt, Dr. Longstaff maintained, that the deaths from simple continued fever, which in sixteen years had in London alone amounted to 4,374, had been due to other and unrecognized causes, in fact had been errors of diagnosis, for in hospitals and in the practice of accurate observers fatal cases of febricula were unknown. They must represent, he said, either a *heterogeneous* collection of deaths from various diseases attended by pyrexia, or some definite disease which would have been returned by others under its proper designation. Doubtless a certain number were due to acute tuberculosis, the symptoms of which were often very obscure; but if the first supposition were correct, they would not exhibit a regular and well-marked curve. Under the latter supposition their curve would give a clue to the nature of the bulk of the cases, and looking at it he could not imagine that even any considerable proportion of them could be enteric, or, in short, anything but typhus.

Swallowing of the Tongue.

Dr. GEORGE W. MAJOR thus writes in the *Canada Med. and Surg. Jour.*, May, 1885.

"Swallowing of the tongue," though a recognized possibility, is of rare occurrence. The literature, upon this subject, is meagre, but few cases having been recorded. Additional interest may attach to the following report, in that the phenomenon was observed with the laryngeal mirror:

Betsy K., widow, æt. 30, a native of Poland, applied at the Nose and Throat Clinic of the Montreal General Hospital, on March 28th, 1885, for treatment. The patient showed syphilitic heredity, as evidenced by a saddle nose and partial destruction of the velum. The latter condition was turned to good account in conducting the laryngoscopic examination. The woman was of a highly nervous and hysterical temperament, she constantly heaved deep sighs, and complained of a sinking feeling, with weakness.

I noticed that repeated acts of forcible deglutition were followed by a deep inspiration, when breathing would suddenly cease; but after a few seconds of suspension, an expiratory effort would be ushered in by a distinctly audible *clucking* sound, which evidently afforded great relief to the patient.

On examination with the laryngoscope, a clear view was readily obtained. The pharyngo-larynx was very spacious, and beyond a little congestion, was fairly healthy. The action of the ventricular bands and vocal cords showed no tendency to spasm.

On continuing the exposure, the tongue was observed to retract, impinge upon the epiglottis, and then quickly recover its normal position in the mouth. This process, which was several times repeated, was followed by a deep inspiration; when the base of the tongue would press down the epiglottis, completely obscuring it from view, and impact itself against the pharyngeal wall, thereby preventing the entrance and exit of air. After a few seconds, the spasm of the tongue would relax, the epiglottis would be released, accompanied by the sound before referred to, and breathing would once more be restored.

The loss of a portion of the soft palate and pillars greatly facilitated these observations and enabled me, on half-a-dozen occasions, to demonstrate the *modus operandi* of this peculiar neurosis, (for as such I regard it) to my class in laryngology, at the summer session.

Under tonics and nervines, improvement followed; and though the tendency to the attacks still continues, the act is incomplete, and as a result, respiration is not seriously interfered with.

"Swallowing of the tongue" may possibly be confounded with spasm of the glottis. A knowledge of its possible occurrence, however, will go far to prevent an error in diagnosis.

I am not aware of any recorded instance, where this condition has been before observed with the laryngoscope. In the published cases, many of which were fatal, division of the frenum linguæ and whooping-cough were the chief factors. In these, the tongue was retroflexed and the tip became wedged in the throat. This was not remarked in my case, in which the difficulty was due to the base of the tongue pressing upon the epiglottis.

In the administration of chloroform, "swallowing of the tongue" may occur ; but by drawing the tip forward with forceps, danger is averted.

A concise report of the literature upon this subject was published by Henning of Leipsic (*Jahrb. für Kinderheilk.*, Vol. XI., p. 213), and may be found in the *American Jour. of Obstetrics*, January, 1878, p. 208.

Dr. J. Solis-Cohen, in speaking of laryngeal spasm, says :

"In some cases of supposed spasm, the tongue is swallowed, as it were occluding the larynx ; and this is occasionally fatal." (Cohen on Diseases of the Throat and Nasal Passages, 1880, p. 628.)

Dr. Ingals, of Chicago, reports an interesting case with remarks, in the *Archives of Laryngology*, Vol. II., p. 135.

Not more than half a score of cases have been recorded ; but in absence of laryngoscopic examination, no absolute certainty can exist as to the precise nature of any of them.

A Case of Parasitic Disease of the Stomach.

Dr. G. CECIL DICKSON describes this case in the *Practitioner*, April, 1885: H. M., aged 21, dairymaid at a farmhouse ; was strong and healthy until April, 1884, when she took ill with abdominal pain and fever. These symptoms soon subsided and she returned to her home at another farm, and began to suffer there from what was afterwards her most prominent symptom—vomiting. At first it came daily, usually in the morning, and the matter ejected was greenish and watery, but it afterwards grew more frequent, and she became gradually weaker. Varied treatment was tried by several medical men, but with no alleviation. In November she was, through weakness, almost entirely confined to her bed, and her condition then was as follows:—In appearance, thin and anæmic ; temperature normal ; pulse always rapid, usually 100, regular, small.

Alimentary System.—Deficient appetite, moderate thirst, tongue foul in mornings, when it and the teeth were coated with slimy material, pain in stomach, occasionally after food, flatulence and eructations before vomiting. No marked dilatation of the stomach detected by percussion, abdomen not distended, vomiting came on three or four times a day—it occurred at most irregular intervals—sometimes at night, occasionally in the morning before breakfast, never immediately after food. In time it appeared to have no relation to any stage of the digestive process. Quantity vomited was very large, sometimes three pints on each occasion. In color and consistence it was like pea-soup, being yellow and with a deposit forming about one-third of the whole ; not fœtid. No frothiness visible. Not at all mucous in character. Acid in reaction, but not strongly so. It was examined microscopically shortly after being vomited into a clean vessel, and the objects observed were the following:—

Starch corpuscles and granular matter. (The diet at this time was confined to milk and toast.) The most marked objects were numerous rod-shaped bodies, which by their shape and uniform dimensions were at once recognized as a kind of organism, in fact bacilli, and there was noted in regard to them:—

1. Size: length averaged $1\frac{1}{2}$ times the diameter of a red blood-corpuscle, several were longer and were evidently formed by the union of several segments ;

their breadth was constant, they were thicker than the rods of bacillus anthracis or subtilis.

2. Shape was cylindrical or rod-shaped, the ends of which appeared square cut. No flagellum visible by a power of 800. Motionless.

3. Spores were seen inside the bacilli, giving some of them an annulose appearance, some also separate.

4. They stained readily with Bismarck-brown, gentian-violet, methyl-aniline; less so with eosine, not with iodine.

No other microscopic object, no sarcinæ, no torulæ. After each attack of vomiting there was immediate relief felt from a previous uneasiness in the abdomen. There was constipation and the stools were clay-colored. She had leucorrhœa and the urine was at times foetid and ammoniacal. Anti-parasitic treatment was then begun: 15 grains of sulpho-carbolate of sodium were given after each attack of vomiting. There was immediate relief to the uneasiness described above, and the vomiting became less frequent, and when examined the organisms were less numerous. In a few days the vomiting ceased, and since then she has improved up to perfect health, and has now no gastric symptom.

From the enormous number of the bacilli in the vomited matter, and from the fact that the symptoms, previously obstinate, disappeared rapidly when the treatment was directed to their destruction, there can be little doubt that these organisms had a close relationship to the disease. It is not necessary to assume that they were the primary cause; that is improbable, as a healthy gastric juice would be intolerant of such organisms. The illness commenced with symptoms pointing to an inflammatory process in the abdominal organs, and it is possible that there, in the perverted secretions, the bacilli obtained a firm holding. They would then multiply and their presence would stimulate the gastric glands to secrete, and thus would be formed the large quantities of vomited matter; for it was marked, both by the patient and her friends, that this was very much in excess of what was eaten and drunk. When the fluid in the stomach reached a certain quantity, the abnormal stimulation of its nerves would lead to vomiting, and this was therefore a salutary process, getting rid of vast numbers of parasites, and indicates how symptomatic treatment to allay vomiting could only increase the abnormal condition. That the secretion would be prevented is certain, that the rapid pulse and other symptoms might be due to absorption of some alkaloid formed by them is probable. The pale color of the stools would indicate an interference with the formation of bile in the liver by some abnormal ingredient in the blood of the portal vein.

In regard to treatment, the mode of giving the parasiticide is important. It was given after each attack of vomiting, when the stomach would contain many fewer organisms and when it would act in a concentrated manner. It was also given in the mornings for several days after vomiting ceased.

With reference to etiology there was no source for the bacilli in the food or drink, no other cases in the neighborhood, no disease in the cows of the farm, nor any other evident external origin. One may conjecture their source to be in some of the organisms naturally existing in other parts of the alimentary tract in small numbers, and under certain favorable predisposing conditions, thriving and reproducing themselves in the cavity of the stomach and thus giving rise to a disease.

Nasal Asthma—Its Causes and Treatment.

Dr. G. HUNTEN MACKENZIE thus writes in the *Brit. Med. Jour.*, May 16, 1885:

The causal relationship between nasal disease and asthma was first pointed out by Voltolini, in 1872 (referred to by Morell Mackenzie, *Manual of Diseases of the Throat and Nose*, vol. ii., p. 360), and since that time numerous cases have been recorded which have established the accuracy of this observation. In all these instances, with one exception recorded by myself (*Edinburgh Medical Journal*, February, 1883), polypi, or marked swellings of the nasal mucous membrane, have been the varieties of disease present. This has given rise to the theory held by some, that the asthma is owing to mechanical obstruction to the passage of air; and additional confirmation of this view is supposed to be afforded by the disease disappearing on the removal of the obstructing mass.

Against this theory two arguments can be advanced; the frequency of polypus or tumefaction of the nasal mucous membrane without asthma, and the presence of nasal asthma without the occurrence of either. The first is a matter of everyday experience, and the second has received illustration by the case above referred to, in which violent paroxysms of asthma were associated with a condition of chronic (atrophic) inflammation of the nasal mucous membrane, and ceased on the application of nasal remedies; and by the following case that has recently come under my notice.

A boy, aged 13, was brought to me on January 23d, 1885, on account of a copious watery discharge from the nose, and asthma. He had suffered from these for about ten years, with slight periods of remission. The asthmatic attacks were often very severe, and generally occurred about 4 or 5 a. m. The condition of his nose necessitated the use of from twenty to thirty handkerchiefs daily. Anterior and posterior rhinoscopy showed chronic catarrh of the nasal mucous membrane, with a slight amount of muco-purulent secretion. There was no polypus or thickening of the membrane. Though not robust, he presented no indications of disease elsewhere. (This patient has, apparently, quite recovered, under the after-mentioned treatment.)

What is the explanation of such cases? I believe the asthma to be owing, not to any mechanical obstruction of the nasal passages, but to a condition of abnormal irritability of the nasal mucous membrane, due to, or aggravated by, chronic inflammation. Polypi may, or may not, co-exist; when present, they doubtless assist in maintaining the augmented irritability of the mucous lining. The high degree of normal sensitiveness of the mucous membrane of the nose is well known; and when this membrane has been the subject of long-continued inflammation, its irritability appears to become highly augmented, and more easily excited. Reflex acts are then readily induced, of which sneezing, cough, and asthma are the principal indications.

The peripheral irritation may be caused by dust or pollen, and hence the attacks are usually worse in midsummer and autumn; by cold, therefore their frequency in the early morning hours; or by the irritation of a polypus. Dr. John Mackenzie has recently stated (*Transactions of the Medical and Surgical Faculty of Maryland*, 1884) that asthmatic attacks in cases of nasal polypus only occur when the growth is, by force of gravity, brought against the pos-

terior part of the nostril, corresponding with the most excitable spot in the sensitive area. On the other hand, Hack, quoted by Morell Mackenzie (*Manual of Diseases of the Throat and Nose*, vol. ii., p. 361), considers that reflex phenomena may be produced by irritation of any part of the lining membrane of the nose.

Associated with the asthma are, usually, excessive sneezing and profuse discharge of mucus from the nose, occasionally cough. There is more or less impairment of the general health, with languor and depression of spirits.

The treatment of these cases must obviously, in the first place, be directed to the removal of the exciting cause. The patient ought to be directed to reside in an atmosphere as free as possible from dust and other atmospheric impurities. Above all, active medication should be directed to the nose; and, after a fair trial of various remedies, I have found none so efficacious as belladonna, applied in the form of buginaria (nasal bougies). From one-twelfth to one-sixth of a grain of the extract ought to be incorporated in each bougie, one of these being introduced into each nostril night and morning, and allowed to thoroughly dissolve there. I have found their employment most beneficial, alike in regard to the sneezing, the secretion, and the asthma. Their use is usually followed by a burning sensation in the nose, but this is never severe, and soon disappears. I have also experimented with the sulphate of atropia in the same way, but have found it less efficacious, and probably more irritating, than the extract. Previously to the introduction of the bougie, the nasal mucous membrane may be cleaned by the anterior nasal spray. The use of the bougies may be gradually made less frequent, according to the amount of success achieved.

The cases which I have hitherto watched, have rather belonged to the atrophic than the hypertrophic form of rhinitis, but where vascular engorgement is present, it seems probable that the use of cocaine bougies would be beneficial. According to Bosworth (*Internationales Certralblatt für Laryngologie und Rhinologie*, No. 8), this drug has a remarkable effect in diminishing the vascularity of the lining membrane of the nose. In acute nasal catarrh, its local application has only a temporary effect.

The treatment may be combined with the administration of tonics, and such other general remedies as may be deemed suitable by the physician. By themselves, these are, however, singularly inefficacious. I venture, therefore, to commend to the profession the use of nasal bougies, containing belladonna, as an effectual method of treating the troublesome and obstinate complaints dependent upon chronic nasal catarrh and irritability, of which asthma is alike the most important and most intractable.

Nephralgia Due to Malarial Poisoning.

Dr. F. W. KIRKHAM thus writes in the *London Med. Times*, April 4: On the 9th April, 1884, whilst at Colon (Isthmus of Panama), I was called to see an engineer who, it was stated, was suffering from severe pain in his back. The patient was 25 years of age, tall, thin, and of fair complexion. He had been resident in the Isthmus for eighteen months, during which time he had suffered twice from attacks of intermittent fever. On the 6th April he was seized suddenly, whilst at breakfast, with a severe pain in the right loin, which he de-

scribed as being of a dull aching character, varied at intervals by paroxysms of severe shooting pains which extended down the corresponding thigh. These symptoms lasted about four hours, at the end of which time he perspired profusely, and the pain then gradually left him, and during the remaining portion of the day it did not again return. The next morning, however, he was seized in a similar manner at 11 o'clock, which was about the same hour that the attack of the previous day commenced. This seizure lasted till 4 o'clock in the afternoon, and, like the former, its departure was accompanied by profuse perspiration. On the 8th, another paroxysm came on at the same hour, exactly resembling the two former, and lasting about the same length of time. During these three days he was in the interior, far away from medical assistance. On the evening of the 8th, he proceeded to Colon, in order to obtain advice, which town he reached early in the morning of the 9th, the day I first saw him.

On visiting him at 11.30 a. m., I found him suffering from pain, evidently of extreme severity, in his right loin. For some minutes he could not be composed, but wildly threw himself about the bed on which he lay, writhing with the intense anguish he endured. His face was pinched, and his expression denoted extreme anxiety. After a few minutes a period of comparative ease arrived, and the patient lay back quiet and exhausted, though still suffering from great pain, which, however, was now of a dull aching character, whereas that from which he suffered a few minutes previously was sharp and stabbing. His skin was hot and dry. Temperature 102.4°. Pulse 108. His tongue was clean, and he stated that his appetite had been good and his bowels regular during the last few days. Neither his liver nor his spleen was enlarged, and he had passed urine freely morning and night during his illness. This was found to be alkaline, to contain no albumen, pus, or blood, and deposited no sediment. Nothing was discovered by physical examination save slight tenderness in the loin. Voluntary movements of the back did not increase or alter the pain. During the morning, attacks of the sharp pains recurred at intervals, and the patient stated that they extended down the thigh, and that he felt pain at the end of the penis. None of these paroxysms, however, were of so severe a nature as the first. Five minims of *Injectio Morphia Hypodermica* were injected, and at 12.20 the patient fell into a quiet sleep. Whilst sleeping, his temperature was 102.8° and pulse 107, and his skin was still hot and dry. At 2 p. m. he awoke, suffering no pain, but perspiring freely, the thermometer registering 99°, and the pulse 84. At 3 p. m. he felt quite easy, but much exhausted, and his temperature and pulse were normal.

On the morning of the 10th, at 9 a. m., I found the patient was still quite easy, and that he had passed a good night. Twenty grains of quinine were administered. At 10.30 there was a slight paroxysm which lasted only ten minutes, and with this exception he passed a comfortable day.

On the morning of the 11th, at 9 o'clock, fifteen grains of the anti-periodic were given, and the patient had no recurrence of his symptoms.

On the 12th the quinine was discontinued, and again he suffered not.

On the 13th the quinine was still held in abeyance, but about noon the patient was seized with a pretty sharp attack, which lasted three hours. Five minims of the hypodermic solution of morphia were injected, which had the effect of relieving the pain to a great extent, though it did not induce sleep. The tempera-

ture, which during the last three days had been normal, reached, during this attack, 102.6° .

On the 14th, at 9 a. m., the patient was given 15 grains of quinine, and was ordered to take a draught containing 10 grains every succeeding morning at the same hour. During the day he had a slight dull pain in his loin, lasting about one hour, but otherwise was comfortable.

From the 14th, I did not see him till my return from Nicaragua on the 19th, when I found that during my absence he had been free from all pain. As he was, however, suffering from gastric irritation, evidently caused by the large doses of quinine, this drug was discontinued, and small doses of nitro-hydrochloric acid administered three times a day, and, by my advice, he went to Jamaica for a change of air.

Since that time, I heard nothing of him till November last, when I had a letter from him stating that he has since April enjoyed perfect health.

During the past two years I have had four patients under my care, who, after recovering or during their recovery from malarial fevers, have been seized with daily recurring attacks of pain in the region of the kidney, presenting symptoms very like those due to the passage of a renal calculus. In the case here recorded, it was the history of the case, the previous attacks of fever, the periodical recurrence of the symptoms, and the heightened temperature during the paroxysms, that led me to deem it due to poisoning from malaria, and its speedy yielding to the anti-periodic treatment will, I think, justify me in diagnosing it as a case of nephralgia due to malarial poisoning.

The Abortive Treatment of Typhoid Fever by Mercurial Inunction.

The *Med. News*, June 6, says: None of the measures as yet suggested to abort typhoid fever have materially influenced its treatment by physicians in this country or in England, whatever may have been the impression they have made upon the continent of Europe. The latest treatment, although a modification of the mercurial plan which has been for some time before the profession, promises results which demand for it a trial, based as it is on an experience with one hundred cases, recently published by Dr. Kalb, in the *Berliner Klin. Wochenschr.*, for January 19.

Dr. Kalb's method is to rub into the skin 90 grains of mercurial ointment, daily for six days, the first application being made to the abdomen, and at least half an hour being consumed in the friction, which must not, however, be trusted to the patient himself. On the second day the ointment is to be rubbed on the inner side of one thigh, on the third on the other thigh, on the fourth again on the abdomen, on the fifth on one of the thighs, and on the sixth on the remaining thigh. The inunction is preferably made in the evening. The ointment is not quite fresh, but slightly rancid, since it is believed that a greater uniformity of result is obtained.

Coincidentally, Dr. Kalb administers a powder containing 7.5 grains of calomel and three-quarters of a grain of opium every five or six hours, the opium being added to prevent the calomel from acting as a purge. No other medicine is given except alcohol, which is, however, administered in full doses.

The results are described as follows: On the second day the temperature falls half a degree or more, but rises again the next day to its previous height and remains at this seven days. On the eighth day of the treatment—that is, the second day after the inunction is completed—the temperature falls to normal or almost normal, and continues thus with slight variations. Occasionally the temperature sinks to normal even during the inunction, but it is necessary to carry the treatment to its end, or the temperature may again rise.

The pulse remains for a few days at 100 to 120, though it also often falls with the temperature to the normal, or even to 60 or below. With the fall in temperature, perspiration becomes freer and shows itself especially on the abdomen and thighs. With the disappearance of fever there is a return of normal sensation; there is a mere trace of bronchitis, but the spleen remains enlarged for from ten to fourteen days.

Kalb has not neglected to compare these results with those produced by cold baths, by calomel and alcohol, or alcohol alone, and has invariably found that the inunction treatment contrasts favorably, and has been repeatedly reproached by patients who had not been anointed because they were still confined to bed, while others treated by inunction had completely recovered.

He does not claim, however, that the method is always successful, but only that 80 per cent. of those thus treated become free from fever within ten days of the beginning of the treatment. The treatment is also only efficient if adopted within the first nine or ten days, in general before the rose-colored rash has made its appearance; indeed, after this time it is useless.

While he has observed salivation, it has always been slight, and confined to transitory swelling and sensitiveness of the gums, and Kalb holds responsible for it the calomel rather than the mercurial ointment.

Our readers will not fail to have noticed that the treatment is really a combined one of stimulation with mercurials, but the results are certainly such as should not be lightly passed by. Stated with positiveness and confidence, and substantiated by so large a number of cases, it would indeed be strange if they were entirely erroneous. We strongly commend them to the attention of our readers, and as the treatment is so easily carried out, we ought soon to have an abundance of testimony bearing upon its value.

Eucalyptus in Typhoid and Other Fevers.

Dr. LEIGHTON KESTEVEN thus writes in the *Practitioner*, May, 1885: In that most valuable and practicable work, the *Practitioner's Handbook*, by Milner Fothergill, I find the following passages: "It is always agreeable to give medicines with a lively expectation of what they will do. Such prescribing always gives a greater sense of satisfaction than when one is driven to prescribe *secundum artem*, or according to an unilluminated empiricism" (p. 13); and "Whatever line of plan the reader may adopt, it should be rational above all things; if there is really nothing else for it, let it be selected by or from a well-chosen empiricism, either personal or acquired" (p. 14).

To what I believe to be a "well-chosen" empiricism—although "unilluminated" by scientific inquiry or physiological research—I now desire to direct attention, basing its claim to be well chosen upon its results—in fact upon the "proof of the pudding," after a fairly extended trial in a large general practice.

Whilst resident surgeon at the Brisbane General Hospital, the number of cases of typhoid fever was very considerable, there being an absolute epidemic in the town at time, with a proportionate mortality; and the idea then occurred to me that if the oil of eucalyptus was such an efficient disinfectant as it has lately been demonstrated to be, its germicidal properties might be equally efficacious internally. That is, that if typhoid fever owed its existence to specific germs, such a sure germicide as this should be the true remedy for the disease, by destroying its cause.

Acting on this idea, a mixture was given containing eucalyptus in tentative doses of from two to five minims made up into an emulsion with mucilage. From these doses I fancied that benefit was obtained, but from various circumstances I was unable to give it the thorough trial which I believed it deserved, and shortly after its commencement I left the hospital, and went into practice in Brisbane, when the epidemic was at its worst; I immediately gave it the fullest trial, giving it in every case of typhoid which came under my care.

A large and wide-spread practice, which I obtained immediately, deprived me of the necessary time for taking methodical notes of my cases, and I can only give a general sketch of the results.

Of 220 cases of typhoid which I attended in about eighteen months, there were four deaths only, and of these there was in every case an unfavorable circumstance. No. 1 was a woman of fifty years of age, whom I had attended about three months previously for an attack of inflammation of the bowels, following on neglected constipation, causing obstruction; and, notwithstanding my previous warnings, I believe she had allowed the same state of affairs to go on again, as on the first appearance of the typhoid I found her bowels again loaded with scybala, and, therefore, her whole system was unfitted to cope with any severe illness. No. 2 had been ill for a fortnight, and delirious for a week before I was called in, and died the next day. No. 3, a boy of five years of age, was little more than skin and bone from an attack of scarlet fever a few months previously: and No. 4 was a hopeless case handed over to me from a medical friend, much more like typhus than typhoid.

Larger doses than I mentioned as being given at the hospital I found to be necessary to give perceptible results, and I now give ten minims every four hours, Without being absolutely nauseous, however, this medicine does not agree well with all stomachs; but this difficulty can be entirely overcome by careful emulsification, and the addition of half a drachm each of aromatic spirits of ammonia, spirits of chloroform, and glycerine, the latter entirely removing the rough semi-resinous taste of the oil.

The effects of this medicine are, in brief, the following: First, it steadily and permanently reduces the force and frequency of the pulse. Indeed, in one or two cases, I noticed this result obtained with almost marvellous rapidity: in one case in particular, the pulse, from being a sledge-hammer pulse of 120, went to 90 within an hour of the first dose of the medicine, and never went above 90 again. Secondly, lowering of the temperature. This occurs less rapidly, and (it has occurred to me) might be entirely secondary to, and dependent on, the lowering of the pulse. To illustrate its *modus operandi* I here append the morning and evening temperatures of three cases occurring in one family at the same

time, treated alike as to diet and medicine, all being in one large room, bare of curtains or hangings, and with good ventilation. The third one is case No. 3, of the four fatal cases I enumerated above. I will call them A, B, and C.

	A.		B.		C.	
	Morning.	Evening.	Morning.	Evening.	Morning.	Evening.
1st day.	104.5	—	103.6	—	101	—
2d day.	105.4	103.5	102.6	104.3	103.8	102.5
3d day.	104	103.2	102.8	103.6	102.4	102.6
4th day.	106	104	102.5	99.8	101.3	101.5
5th day.	104	104.6	98.6	103.4	101.9	101.4
6th day.	101.7	101	98.8	98.6	102.5	101
7th day.	98.6	99.2	98.6	100.4	101.4	101.4
8th day.	98.8	98.6	100	98.9	102	Died.
9th day.	98.6	98.6	98.9	98.6		
10th day.	98.6	98.6	98.6	98.6		
11th day.	98.6	98.6	98.6	98.6		

From the eleventh day the temperature never went above normal, and the two survivors (girls aged respectively fourteen and eight years) were kept in bed merely as a precautionary measure for the traditional twenty-one days, without a single unfavorable symptom. The rises in temperature are accounted for as follows:

A.'s temperature of 106° on the fourth morning corresponds to an attack of violent delirium during the third night, and was reduced by assiduous cold packing during the fourth day. B.'s temperature of 103.4° on the fifth evening, to a threatening of secondary pneumonia, which, for reasons which I will presently adduce, I treated with increased doses (from five going to ten minims) of the eucalyptus, and jacket poultices; the 100.4° on the seventh evening, meaning the same. C., the boy of five, died of exhaustion from tympanites and tormina, arising, on the sixth day, in an already enfeebled system.

These temperatures, to ensure accuracy, were all taken carefully by myself, and in every instance the thermometer was kept in five minutes by my watch. All the three were typical typhoid cases, and none of them were robust or particularly strong subjects, the other symptoms besides the temperature being very marked. The rash was present in all, the abdominal tenderness, the gurgling in the right iliac fossa, dry brown tongue, diarrhoea, dry skin, and sordes on the teeth and gums; and I firmly believe that had it not been for the eucalyptus, the temperatures would have been of corresponding height. I have quoted these cases as being the only ones in which I kept a careful and systematic record of the temperatures, and I did so here because I saw the special value of such a record in a little group of cases all under the same conditions, starting simultaneously and treated similarly; but if I had kept similar records of all my other cases, they would almost all have shown identical results. Time alone prevented my doing so.

Thirdly, the beneficial effect on the tongue is very marked, almost immediately alleviating the distressing dryness so universal in typhoid, and removing the thick brown coating, leaving but proportionately little fur, and frequently clean-

ing the tongue entirely in a very short time. I have seen it have an almost magic effect in this direction. In one case I was called in to, I found a young fellow of about twenty-five years of age on the seventh day in bed, in a state of low muttering delirium, with a brown leathery tongue, dry as a board, and with bloody sordes on teeth and lips. I gave him the above mixture (ten minims ol. eucalypt. every three hours), and on my visit the next morning teeth and lips were clean and tongue moist, and with nothing more than a slight yellowish fur, and the man perfectly reasonable and collected. I should add here that I ordered an ounce of whiskey every hour in soda-water and milk (this latter I regard, however, as merely an edjuvant to the medicine), and constant cold packing.

Fourthly, the skin, along with the reduction in its temperature, becomes moist and soft in contrast with the harsh, dry, hot skin so frequent and persistent, conferring a corresponding increase of comfort to the sufferer, who has previously felt as if his skin had been drawn tight all over his body. This alone is a boon to the patient of no small import.

Having now stated what I believe to be the four principal actions of this medicine, I wish to give a general sketch of the diet and concomitant treatment adopted.

First and foremost I pin great faith to the most liberal administration of free alcohol, whisky (Thompson's "Royal Blend" as being of uniform purity) being the form I order it in. I have given as much as thirty ounces in the twenty-four hours, and firmly believe that the thread of life was only held together and the crisis (of high delirium and thready pulse of 140) tided over by such an heroic plan of administration. In all severe cases I order whisky from the commencement of the case till normal temperature is obtained, giving on an average five to ten ounces per diem, usually in milk and soda-water. In ordinary cases I feed the patient on milk thickened with isinglass, beaten-up eggs, milk and soda, cocoa, and—where diarrhoea exists—ground rice and milk. In asthenic cases chicken-broth (concentrated to ten ounces of clear broth from a whole fowl) given in ounce doses to avoid filling the stomach with too large a quantity of fluid for weak digestion, the juice of half-cooked mutton, or beef tea made in a pot without water and strained through fine muslin.

For the abdominal tenderness frequently-changed ice-cold compresses, and ice to suck; ice to the shaved head for cephalalgia; and frequent cold packs from the head to the knees at any rise of temperature. All the linen is changed morning and evening, without ever altering the patient from the horizontal position. All nourishment given in small quantities at short intervals, thus receiving better digestion than when given in larger quantities at longer intervals.

The diet and nursing, however, I have always considered as by no means of secondary importance, and I have at times been almost tempted to doubt whether by my strict attention to this I was not merely following out the plan of those who assert that not only is no medicine required, but it is absolutely mischievous, and that my new remedy was a delusion, an inert nostrum; until to put it to the test I have in different cases progressing well, suddenly discontinued the medicine and seen all the unfavorable symptoms return directly, and then I have been re-converted, confirmed in my faith.

To those who would still assert as above that it was the nursing and diet to

which any success that has followed this line of treatment has been due, I answer that, given the same number of cases, and the same dietary and other measures without the eucalyptus, you will not, and have not hitherto, obtained a rate of mortality which—taking the nature of the four fatal cases into consideration—is practically *nil*: and I would (as basing the claim of special virtue to this medicine on no scientific evidence, but merely on the broad ground of conclusions drawn—possibly hastily—from the results of practice) urge that thorough trial should be made of it, and the results of more thorough investigations published.

As Professor Jürgensen of Kiel remarks, "Against facts only fools will fight. Whoever makes it his business to cure the sick, who does not act according to tradition at the bed-side, but knows what he wishes to effect, will not shrink for a moment from acting in the same way." This I met with in a lecture on pneumonia, apropos of the large doses of quinine which he gives to lower the temperature; and in comparing the action of eucalyptus with quinine as an antipyretic one very important point must be borne in mind, and that is, that though quinine in large doses lowers the temperature very rapidly, there is an invariable subsequent rise, whilst as the cases instanced above show, when once we have obtained the reduction after the administration of eucalyptus, it is permanent and steadily continues going down till the normal is arrived at, though this result is not so rapidly obtained as by quinine.

How this result is obtained I am unable to do more than conjecture, my idea being that it is purely by its action as a germicide striking at the root of the mischief, thereby depriving the fever of its power. Of course on the other hand it may be similar in its action to alcohol (as advanced by Schmeideberg) by retarding the oxidation; or by dilatation of the cutaneous vessels extending the cooling area, as Fothergill has it; or by some effect upon the nervous system; but by whichever mode it acts its true properties remain to be demonstrated. The extraordinary shortening of the duration of the fever which it effects is most notable. I have (as I mentioned above) as a matter of practice kept my patients in bed for the traditional twenty-one days, but under its effects the duration of the fever has been that length in but very few cases, the tenth day being just as often the termination of the elevation of temperature.

Experimentally I have given this drug in two or three cases of pneumonia with the most marked benefit.

The Influence of High Altitudes upon Pulmonary Consumption.

Dr. IRVING M. SNOW thus writes in the *N. Y. Med. Jour.*, June 13: The treatment of pulmonary consumption has, at all times, been unsatisfactory to the physician, by reason of the certain and often rapid progress of the disease to a fatal termination. The disease is, indeed, often palliated by medical skill, but relief is usually only temporary, and life is rarely prolonged more than three years. During an experience of thirty-eight years, Dr. Austin Flint states that he has seen but seventy-five cases in which an arrest of the disease took place, and in most of these the improvement was for a short time. Every physician is called upon to examine and advise the victims of consumption. It is a disease

in which the doctor is early and frequently consulted, yet one-seventh of all deaths are yearly attributed to this cause in the United States, and in Maine 50 per cent. of all deaths between twenty and forty years are from consumption.

From the failure of the *materia medica* to cope with this disease, attention has been drawn to the modifying influence of climate upon chronic pulmonary disorders. The conditions of soil and atmosphere favorable to the development of phthisis pulmonalis are well known. Damp, ill-drained land, cold, humid air, sudden changes of temperature, lack of sunlight, anti-hygienic surroundings—all contribute to depress the general health and to occasion the fearful prevalence of consumption in low-lying districts and in large cities. It is, therefore, evident that, in the search for a climate for the prevention or cure of consumption, dryness of air and soil and the invigorating influences of sunlight must be substituted, for the deleterious conditions of ground and atmosphere mentioned above. That climate is a potent agent in the prevention of phthisis pulmonalis, is demonstrated by the fact that a region of comparative immunity from the disease is found in high altitudes. Consumption is excessively rare among the native population of New Mexico; and it is stated by Dr. Archibald Smith to be an exotic in the Peruvian Andes at an elevation of 6,500 feet. Küchenmeister and Lombard have estimated the altitude of approximate immunity in Switzerland at 4,000 feet, and at the equator 9,000 feet. Dr. Herman Weber, an unquestioned authority on medical climatology, has also testified to the rarity of phthisis upon elevated table-lands. We may also see the influence of altitude in our own country; that while the mortality in New York city is 20 per cent., at an elevation of 2,000 feet above the sea, only 10 per cent. of all deaths are attributed to pulmonary consumption.

In America Dr. Denison, of Denver, has placed the altitude of comparative immunity from phthisis at 6,000 feet, and quotes the vital statistics of Denver, which, in four years and a half, show but fourteen deaths from consumption originating in the State, two of which were acknowledged by the attending physicians to have originated elsewhere. The analysis of the conditions of climate found in this area of so-called immunity in Colorado becomes an interesting study.

As the traveler passes from eastern to western Kansas toward the Rocky Mountains the landscape gradually changes. In place of luxuriant vegetation, vast cornfields, and numerous streams, the prairie becomes parched and arid, the water-courses waste to dryness, and the whole prospect shows the absence of rain. This difference can be appreciated when we learn that the annual precipitation of rain and melted snow at Denver, 5,300 feet above the sea, is 14.77 inches as compared with New York, where it is 42.70 inches a year. This dryness is favored by the loose, sandy nature of the soil, which absorbs and radiates heat and moisture far more rapidly than impermeable rock or clay. Constant humidity of earth and air predisposes most strongly to the development of phthisis and other pulmonary disorders, while dryness of soil and atmosphere gives to the inhabitant of high plateaux comparative exemption from disorders of the respiratory tract. Laennec mentions a locality where the dampness of the soil was of such a character that two-thirds of the resident population died of phthisis. Variations of temperature are less acutely felt in dry than in moist climates, where cold is bitterer and heat more oppressive. The sun is obscured and

hampered along seas and rivers by a veil of cloud or mist, but when we reach the plains of Colorado the atmosphere is of a silver clearness, and those who have felt the exhilaration and comfort afforded by the sunlight of Colorado will appreciate the increased power of the atmosphere in transmitting radiant heat. There is found to be an average difference of 43° between sun and shade in Colorado as compared with Washington, where the difference is 23° . A general rule is given by Dr. Denison that "there is a difference of 1° between sun and shade for each rise of 235 feet." This in part explains the enormous diurnal variation of temperature complained of by Dr. Alfred L. Loomis. The physiological effect of light is to stimulate respiration, as is demonstrated by the observations of Bidder and Schmidt, who, finding that animals at rest exhaled more carbon dioxide by day than by night, equalized the elimination of carbon dioxide by depriving the animals of light. To the consumptive, whose hope of life depends upon the amount of sunlight and outdoor exercise he can obtain, the value of a climate like that of Colorado may be appreciated when we contrast its 320 sunny days annually with Boston, where one-third of the year is cloudy.

In proportion to the elevation above the sea, the atmosphere becomes cooler, the temperature being 1° lower for every 200 feet of elevation above the sea. This difference is not arbitrary, being subject to modification by soil and prevailing winds. The rapid absorption and radiation of heat give rise to great extremes of temperature. As compared with the sea-level, the fluctuations of temperature in Colorado are indeed large, the variation in Colorado Springs in July being 30° daily and 63° monthly, as contrasted with San Diego, where the difference is 13° daily and 31° monthly, the climate of the California resort being tempered by the moist, warm winds of the Pacific.

Physiologically, heat is opposed to the stimulation of the nervous centres, as is shown in the greater energy of northern than southern races. Its influence upon respiration is also depressing. The observations of Dr. Parkes show the number of respirations to be about thirteen to the minute in the tropics, and sixteen and a half in England. The value of a cool climate in arresting incipient phthisis is well known. Dr. F. I. Knight, of Boston, has expressed the general sentiment of the medical profession by asserting that "the cold, dry air of high elevations is beneficial in cases of incipient disease of the lung." That the symptoms of consumption are often palliated by moist, semi-tropical climates is true, yet the digestive organs lack the stimulus of cold, the patient is exposed to the dangers of malarial poisoning, and the heat of summer forces the invalid to leave his winter sanitarium, and seek a cooler and less debilitating climate.

With the rise above the sea-level the air becomes rarefied, and the atmospheric pressure is considerably diminished. At the height of 5,300 feet the atmospheric pressure is twelve and a half instead of fifteen pounds to the square inch, and the proportion of oxygen is diminished 16 per cent. This extreme attenuation of the air produces important changes in the economy. The mechanical effect of the rarefied air is to increase the frequency and depth of respiration, and to accelerate the pulse. A greater amount of air must be inhaled to satisfy the demand for oxygen. Hence the lungs have a tendency to be completely filled, the elastic tissue of the vesicles is stretched, and the thorax is expanded to its fullest capacity. At moderate elevations the system quickly adapts itself to the lea-

ened atmospheric pressure, but, when great heights are rapidly attained, as with aëronauts, copious hemorrhages from the lungs ensue, and even at the altitude of Denver hæmoptysis frequently occurs in consumptives in the stage of excavation. Dr. Denison says: "The lessened tension of the air and the increased frequency of respiration force the blood to pass more quickly through the lungs, and the rapid and perfect renewal of capillary circulation is opposed to the stasis of early and chronic inflammation. This improved capillary circulation, together with the more perfect expansion of the thorax, loosens and promotes the expectoration of mucus and inflammatory *débris*." Tissue changes take place more rapidly near the sea than at considerable elevations. The usual experience of new-comers to Colorado is that they lose flesh, and that the sensible perspiration is considerably diminished. With the expansion of the thorax and the increased depth of inspiration, a development of auxiliary muscles of respiration takes place, and children born in Colorado have a wider girth of chest than children born in the Eastern and Middle States. As the natural stimulus of an organ is the element upon which it acts, a lung filled and obstructed with pneumonic, caseous, or tubercular matter is mechanically aided to throw off the adventitious substances which obstruct the air-passages. The symptoms of hectic fever abate, and the consumptive, relieved from his night-sweats, chill, and harassing cough, is placed in a favorable condition for recovery. Finally, the rarity of the air produces complete and constant ventilation, which invalids secure by active or passive outdoor exercise. The purity of the air in Colorado is preserved by elevation above the sea, a thin population, and the constant influence of the sun.

The elements of atmospheric electricity and ozonized air I will not here discuss. Authorities state that the electric tension of the air is increased with elevation, as is also the amount of ozone.

The advantages of Colorado for pulmonary consumption have been too recently appreciated to enable me to present extended statistics as to its benefits. Relief is more certain to the consumptive who seeks the aid of its climate in the preliminary stages of the disease, before there is much loss of tissue. Of 202 patients, having been ill an average of two years before reaching Colorado, at the end of a year and nine months 47 per cent were much improved, 22 per cent. were slightly improved, in 11 per cent. there was favorable resistance to the disease, and in 20 per cent. there were extension and advance. Among those of this number in whom the disease had reached the stage of excavation, at the end of two years, 35 per cent. had died, 40 per cent. were resident in the State, and the remainder had been lost sight of. Even this is a favorable showing for the last stage of a fatal disease. Often patients who reach Colorado with tubercular lungs in the stage of softening are obliged to seek a lower altitude, the morbid process being hastened in Colorado. Cases of uncured or chronic pneumonia and fibroid phthisis are frequently aggravated by the altitude and dry air, and cases in which tubercular infiltration is actively progressing, and those in which much lung tissue is involved, are not favorably influenced by Colorado. A contra-indication to high altitude exists in consumptives of advanced years with rigid chest-walls, and in patients with valvular disease of the heart.

A disputed point now comes up regarding the influence of elevation in hæmorrhagic cases. Patients in whom large cavities exist, with denuded blood-vessels

near the pulmonary excavation, are apt to have profuse hemorrhages from the stretching of lung tissue induced by the rarefied air. Dr. Reed, of Colorado Springs, has analyzed 70 cases in his own practice. Of 34 cases in the stage of deposit, 15 had bled before reaching Colorado, and in only one did hemorrhage recur. Of 34 in whom softening had taken place, 17 had hemorrhages before and 7 after living in the State. The *rationale* of the cure in hæmorrhagic cases is ascribed to the cause of hæmoptysis, the breaking down of tissue, being arrested. Nervous disorders, chorea, neuralgia, nervous headache, and also cardiac diseases, are often aggravated by the altitude. Yet I know a lady with lungs infiltrated with tubercule, with mitral insufficiency of the heart, and a martyr to facial neuralgia, a resident in the State about three years, who passes eight hours a day in the saddle, and is fond of mowing and irrigating her own lawn, who is an enthusiastic and jealous partisan of Colorado and its climate. That good results in phthisis are accomplished by a prolonged residence on the plains of eastern Colorado there can be no reasonable doubt, and cases of complete cure are not uncommon. Here is found a region sheltered on the west by the Rocky Mountains, which rise precipitously from the plain, the prevailing winds being from the south and east, possessed of a cool, dry atmosphere and a sandy soil, the heat being tempered in summer by daily showers. It would seem that all these conditions are favorable to the consumptive. The nearly invariable warmth of the morning allows the invalid to take daily rides or drives in the bright sunlight of a Colorado sky. Here is also found the stimulus, occupation. Invalids who have reached that stage of improvement which an active mind shows by a desire for occupation are able to find profitable employment in the diversified industries of the State. The vast cattle ranches furnish work for those who are able to live in the saddle. Gardening is a favorite pursuit. An Oxonian, whose lungs became tubercular during a sedentary student life, found profitable employment in selling strawberries from his own garden to the citizens of Colorado Springs.

Dr. Loomis objects to the Colorado climate on account of the enormous diurnal range of temperature. A perfectly equable climate was found in the Mammoth Cave, yet nearly all of the consumptives who engaged in that disastrous experiment perished in its sunless depths. If the lesser thermometric range of London and New York, is more favorable to consumptives than the large diurnal variation of Colorado, why does phthisis pulmonalis decimate the population of London and New York while its development is rare in Colorado? Cold is most acutely felt in damp climates, and, moreover, the daily range of temperature in Colorado raises the heat to a point where the invalid can spend some hours in the middle of the day in driving or riding. During the winter of 1888, which I spent in Colorado Springs, in February the thermometer often sank at night to from 12° to 20° below zero, yet at noon the day was sunny and warm enough for hundreds of consumptives to drive up and down the streets of that pleasant little town; and it is further to be noted that this intense cold was not so disastrous to invalids as the damp, chilly winters common in the Eastern and Middle States. In conclusion, it may be said that the best results of the Colorado climate to consumptives are secured by a prolonged residence in the State, with the important auxiliaries of proper diet, clothing, and personal regimen, including discretion in taking active exercise.

Jacksonian Epilepsy.

Dr. WILLIAM OSLER, in the January number of *The American Journal of the Medical Sciences*, makes an interesting contribution to the pathology of a typical case of Jacksonian epilepsy. The case was that of a girl who died at the age of fifteen years and nine months, having manifested the epileptic phenomena for more than fourteen years. She had been healthy up to the age of sixteen months, when she had a fall on her head, though for five months after this no symptoms referable to the brain were noticed. From that date she became liable to attacks of spasms lasting for about seven months, and then disappearing for as long an interval; on one occasion she was free from them for a year. The spasms always began in the left hand, and after a time the leg became affected, the spasm beginning in the toes, the face being affected last. There was never any loss of consciousness, and in the intervals between the spasms the patient was quite well. Thus it is said that if a spasm happened to seize her whilst she was at dinner, she would get a pillow and place it on the floor, and then lie down until the spasm was over, when she would return to her dinner. When she was about eight years old, the left leg became weaker, and the foot began to turn in, and from that time contracture remained, but the arm was never in the least degree stiff. From the time she was eleven years old the fits became more frequent, and she was at one time unconscious for six weeks. For the last ten months of her life she was free from spasms. Her intellectual faculties were unimpaired throughout. Death took place during a paroxysm of convulsions. On examination of the brain a small firm glioma was found in the white substance immediately below the cortex, but hardly, if at all, invading the gray matter at the upper part of the ascending frontal convolution. The case affords, as Dr. Osler points out, confirmation of the view derived from Ferrier's experiments as to the seat of the leg-centre, and is quite in harmony with the pathological experiences of MM. Charcot and Pitres on this point. Dr. Osler was led to infer that the growth had always been small, and in the earlier stages of its development, though causing irritation enough to set up the convulsions, had not involved the white fibres coming from the leg-centre to such an extent as to produce the permanent contracture.

Demonstration of the Three Comma-Bacilli.

Before the New York County Medical Association May 18, Dr. HERMAN M. BIGGS, who has recently returned from Berlin, where he has been pursuing a course of studies under Dr. Koch, gave a demonstration of these bacilli:

The resemblance of the comma-bacillus of sporadic cholera, as described by Finkler and Prior; of that of the mouth, as described by Lewis and Müller; and of that found in stale cheese by Denecke, to the true cholera comma-bacillus, he said, had given rise to much confusion. But similarity of morphological appearances did not constitute identity; identity of growth, culture, and function is essential. Because the English Cholera Commission did not recognize this, their work was practically without value; and even Klein admitted that he had found the comma-bacillus of Koch in greater or less number in all cases of cholera. Dr. Biggs then proceeded to point out the distinctions between the various kinds of

comma-bacilli, and in speaking of the mouth-bacillus, he stated that it took the followers of Koch four months to isolate it; but at last it was done by Prof. Müller. This was a matter of vital importance, for if the identity of the two had been proven, all of Koch's work would have become valueless. He exhibited cultures of the three comma-bacilli, and, in conclusion, remarked that in the mere matter of diagnosis, Koch had certainly made a very valuable contribution to our knowledge of cholera. The etiological relation between the microbe and the disease was not at present proven. There was one point yet lacking in the demonstration of this, viz., the test of inoculation; and it was quite possible that this never would be established, since, as far as we are able to determine, there was probably no animal that was susceptible to cholera. The so-called inoculation of guinea-pigs by means of injections into the duodenum, as practised by Rietsch and Nicati, was unsatisfactory, and could not be accepted.

The Treatment of Chronic Empyema by Estlander's Operation.

The Paris correspondent of the *Lancet*, May 23, writes that CHARLES EDWARD CORMACK, son of the late Sir John Rose Cormack, has just taken his degree of Doctor of Medicine of the Faculty of Paris, the subject of his inaugural thesis being "*Traitement de l'Empyème Chronique par l'Opération d'Estlander.*" The thesis is an octavo volume of 140 pages, in which is given a very good historical account of the various operative measures that have been employed from the time of Hippocrates to the present in the treatment of empyema, the operation known as Estlander's being, according to the author, the only curative treatment for this affection, particularly when accompanied by fistulae which, however, should be resorted to only when all other means have failed. The author gives a full description of Estlander's operation; and the work, which contains seven photographic plates, is interspersed with cases illustrative of the advantages of this method over all the others hitherto employed. The thesis winds up with the following conclusions:

1. Against the suppuration and fistula which follow purulent pleurisy, Estlander's operation is the only measure which responds to the indications of treatment of this affection.
2. It is indicated when all other means have failed.
3. One of the strongest contradictions, and one of the causes of the failure of the operation, is the great extent of the suppurating cavity.
4. Tuberculosis, when not far advanced, is not a contra-indication of the operation; the evolution of tuberculosis may be slackened by early operative intervention.
5. The extent of the costal resection should be proportional to that of the cavity which it is proposed to fill. This resection should always be largely effected, the non-success of the operations hitherto performed being due to insufficient resection.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Medicated Vaginal Tampons.

To the British Gynecological Society (April 23), Dr. FANCOURT BARNES showed some medicated vaginal tampons. The tampons are composed of absorbent cotton-wool and elastic fibre enveloped in sublimated gauze. In the centre of the wool is a small hermetically-closed glass capsule containing a drug in a concentrated form. Before applying the tampon to the vagina, the capsule is broken by pressing the tampon between the finger and thumb, and thus liberating the contents, which are diffused through the tampon. In this way iodoform, cocaine, eucalyptol, or any other drug, may be preserved intact and ready for use when required.

Cimicifuga in Parturition.

Dr. J. SUYDAM KNOX makes the following conclusions in the *Chicago Med. Jour. and Examiner*, April, 1885:

1. Cimicifuga relaxes uterine muscular fibre and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

2. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

3. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery. It is my habit, however, to administer 15 to 30 minims of fld. ext. ergot after the birth of the foetal head, and I have had but few opportunities of testing this effect of the cohosh.

Notes on the Urine of Weaning Women.

Dr. THOMAS F. RAVEN thus writes in the *Brit. Med. Jour.*, April 11, 1885: Mrs. G., aged 26, was nursing a baby 4 months old, when she caught scarlet fever. The disease was severe; the mucous membrane of the fauces, of the uvula, and of the hard and soft palate, being intensely inflamed. The baby had to be weaned at once. The day after the process of weaning was begun, the urine was found to be of specific gravity 1035, containing sugar and albumen. As the breasts lost their milk, the sugar, albumen, and abnormal specific gravity disappeared. There was no nephritis subsequently.

Mrs. B., aged 37, was attempting to nurse her infant—a process under which she always breaks down. An attack of quinsy made her desist. The urine was loaded with lithates, and the specific gravity ran up to 1048. On examination, it

was found to be highly albuminous, and to contain sugar. The albumen, it is believed, was chronic, but the sugar disappeared from the urine as the breasts subsided.

In a dozen other instances of mothers weaning their infants from various causes, the urine has been examined. On no occasion was albumen or sugar detected.

Labor Mistaken for a Bilious Attack.

Dr. R. E. BURGESS, in the *Brit. Med. Jour.*, May 9, says:

I wish to bring under notice the following case. A few days ago I got an urgent message to go and visit Mrs. G., a young woman, married about eleven months. On arrival at the house, I was informed by the husband that his wife was suffering from a bilious attack, "just exactly the same as the one you attended me for." On going upstairs, I found her mother and mother-in-law there, both confident that it was "only a bad bilious attack," and another woman who asserted that it was a case of labor. I was asked by the patient herself to "give her something to relieve her quickly of this awful pain."

On making inquiries, I was told that she had menstruated quite regularly. On placing my hand on the abdomen, I felt what appeared to me to be an enlarged uterus. Her mother asserted most positively that the young woman had menstruated only the week before. On making a vaginal examination, I found a foetal head presenting low down, almost pressing on the perinaeum. Her friends were greatly surprised when I told them what was the matter, and had to send to a married sister for some clothes to put on the child. In about half an hour after my arrival, she was delivered of a female infant, which appeared to me to be about a seven months' foetus. The child is now alive and well.

Viburnum Prunifolium as a Uterine Sedative.

The *Brit. Med. Jour.*, May 16, 1885, says: Attention was first called to this drug in 1866, by Dr. Phares, who regarded it as a "nervous antispasmodic, tonic, astringent, and diuretic," and as "particularly valuable in preventing abortion or miscarriage, whether habitual or otherwise." Further trial has been made by Dr. J. H. Wilson, of Liverpool, of its influence in cases of threatened abortion, and several are detailed in a paper in the *Liverpool Medico-Chirurgical Journal*, in which its administration was uniformly successful. In the cases cited, abortion threatened at periods varying from the earlier weeks of pregnancy to the seventh month, and Dr. Wilson found it act as a "sedative and tonic to the uterine nervous system." He believes that, if given early, and before the ovum is thrown off, most cases of abortion may be prevented. The drug may be given as a liquid extract, in drachm doses, but in this form is apt to induce nausea. An extract in doses of 2 to 4 grains in pill is more palatable. Only in one case was "throbbing of the temples" complained of as due to its administration. Dr. Wilson admits that several of his cases might have done well under ordinary treatment, but is disposed to believe that "convalescence would not have been so speedy or satisfactory."

Applications of Corrosive Sublimate and Glycerine in Epithelioma of the Cervix Uteri.

In the *Brit. Med. Jour.*, March 28, Dr. BIDDLE says: There are few things in the way of palliative treatment that have given me greater satisfaction than the use, in a case of epithelioma of the cervix uteri, of a lotion, or injection, containing one-fourth of a grain of corrosive sublimate and half an ounce of glycerine, to a pint of water. Before using it, a patient of mine had, for seven or eight months, been subject to paroxysms of agonizing pain, and to frequent hemorrhages, which were occasionally profuse. Immediately upon its employment, and for the last three months of her life, the hemorrhage became merely nominal; and, instead of agonizing pain, there was simply the distress consequent upon irritation (by the tumor) of the bowels and bladder, the latter of which became perforated a week before death. I attribute the beneficial change to the very marked reduction in the amount of infiltration. The lotion was used continuously, with very few exceptions, twice a day during the three months, and I shall certainly adopt the same treatment in the next case I have, even before recovery is despaired of. In the case referred to, it was not tried until the curative effects of chromic acid had been tried in vain.

Twinn Monstrosity—Alleged Maternal Impressions.

Dr. B. R. JOHNSTON thus writes in the *Brit. Med. Jour.*, March 28th: A. T., aged 42, married nineteen years, had ten children, the eldest eighteen years old. Menstruation ceased last March, and she expected her confinement about the middle of November, at which time she consulted a medical man, who told her that if she went much longer she would probably have twins, she replying that she did not care so long as they were not "Siamese."

On January 22d she went to the Lying-in Hospital, and stated that she thought there was "something wrong with her," and that hæmorrhage had previously occurred. On the 23d, having been sent for, I found she had been in labor since 10 p. m., on the previous night. On examination, the head was found pressing on the perinæum, and all pains had ceased. This being the case, I immediately applied the forceps, and delivered the head without difficulty; but it was not until after prolonged traction that the shoulders partially emerged, when I discovered that there was an outgrowth from the chest which prevented any further movement in that direction. I therefore passed my hand round the lower part of the abdomen, and delivered the breech and legs. The child was now entirely born, but finding it connected from the neck to umbilicus with another child still in the uterus, I laid hold of the legs of the second, and delivered it without difficulty. The placenta followed in a few minutes. There was only one cord, proceeding from a common umbilicus. The children, both born dead, were males. In the ordinary position they faced one another, but the connecting link was sufficiently lax to allow them to lie partially side by side. In every other respect they were perfectly formed, and weighed eleven pounds.

The next day, when the mother heard of their condition, she told the nurse that, in March last, she went to see the "Two-headed Nightingale," and fainted at the sight.

I regret to say that the occurrence so affected her that, three days afterwards, she committed suicide by jumping out of a window.

The Treatment of the Umbilical Cord.

The *London Med. Times* (April 11, 1885), tells us that in the *Archiv für Gynäkologie* (Band xxiii., Heft 1) appears an article by Drs. CREDÉ and WEBER, of Leipzig, the object of which is to consider: (1) the way in which secondary hæmorrhage from the umbilical cord may be most surely prevented. The authors have made numerous experiments by tying the cord with various ligature materials, and then endeavoring to force fluid through the vessels, to find which kind of ligature most effectually occluded the vessels. They give the palm to the ligature recommended by Budin in 1880, viz., a piece of thin indiarubber cord or tubing. They have devised an ingenious knot, of which they give an illustration; but it is so difficult to give a clear idea of it without the illustration that we shall not attempt it. Tarnier has recommended tying the indiarubber ligature over a match placed parallel with the cord, and then breaking the match at the point where the ligature encircles it and the cord. Formerly, a thin strip of linen was used in the Leipzig lying-in institution, with the result that scarcely a week passed without a case of secondary umbilical hæmorrhage. The india-rubber ligature has been used since July 1883, and from that time to the date of the communication we quote (1884) there had not been a single case. (Budin, we may mention, advises the indiarubber ligature only in cases where the cord is exceptionally thick and friable.) (2) The next question they consider is the prevention of umbilical inflammation. The desideratum is a dressing which shall allow the process of desiccation and separation to go on undisturbed, and protect the cord from traction, and the umbilicus from friction or other injury, and which shall be quite simple and easy of application. The dressing which best fulfills these purposes is simply wrapping the stump of the cord in absorbent cotton-wool, and then leaving it loose underneath the "belly-band." This dressing should be changed daily. It keeps the cord dry, and allows the free access of air, which at the same time it filters from germs. It has been used for years in the Leipzig clinic, and diseases of the cord have never been seen. The authors compare it with several proposed modes of dressing the cord (Fehling's rags sprinkled with salicylic starch powder; the carbolic oil rag, recommended in the Prussian midwives' handbook; and Dohrn's antiseptic occlusive dressing) to the disadvantage of them all.

Rupture of the Vagina During Coitus.

Dr. JAMES R. CHADWICK thus writes in the *Boston Med. and Surg. Jour.*, April 30, 1885:

Rupture of the vagina by the male organ is of so rare occurrence that its possibility has been denied by some writers of authority, hence I wish to put the following case on record.

Mrs. P. L., a woman of ordinary size and well developed in every way, applied at my dispensary on December 17, 1884, with the following story: She was forty-eight years of age, had begun to menstruate at the age of fifteen years, and had ceased at thirty-eight years. She had been six years married to a sailor, with whom she had cohabited freely without difficulty or pain. She had never been pregnant. On December 14th, her husband had returned from four months' absence at sea, and had had connection. The act was accomplished with diffi-

culty. When it was effected, she experienced a most intense lancinating pain on the right side internally. A profuse hemorrhage from the vagina ensued, which, however, ceased before morning. A purulent discharge set in on the second day, and on the third she consulted me. On examination, I found that senile atrophy had taken place, as is usual after the menopause, so that the vagina was much shorter and smaller in calibre than is normal in the adult. On the right side was a fresh longitudinal rent, an inch in length, located in the upper third of the canal, and opening into the cellular tissue to the depth of half an inch.

If the woman's statements are truthful, as I believe, this laceration may be accepted as fully explaining the pain which she felt in coitus, and the hemorrhage immediately succeeding. The accident must be attributed to the fact that the senile atrophy had advanced with exceptional rapidity in the period of four months' abstinence during the husband's voyage, and to his undue vigor from the same cause.

Two cases of this lesion are reported by Dr. Zeiss, of Erfurt, in the *Centralblatt für Gynäkologie* for February 21, 1885. In the first case, the rupture was merely an unusually deep tear of the hymen in a virgin on the first night of marriage, giving rise to a hemorrhage so profuse as to have endangered life. This occurrence is not unusual.

The second case was in a woman who had had a child three years before, and a second one six weeks previously. Coitus took place *à la vache*, with exceptional vigor on the part of the husband, during which the woman experienced sudden extreme pain in the lower part of the abdomen on the right side; persistent hemorrhage ensued. The external genitals were found to be sound, with no signs of contusion. The uterus was greatly retroflexed. The dimensions of the vagina seemed normal. The cervix was firmly adherent to the right side of the pelvis. In the right vault of the vagina was seen a fresh rent an inch in length, into which the finger passed some distance.

Acute Inflammation of the Female Bladder.

Dr. A. S. HOLMES thus writes in the *Mississippi Valley Med. Mo.*, May 10th:

Acute cystitis is not as frequently met with as many are given to believe. The discharge of mucus in the urine is common, but not always significant of inflammatory action, or even disease. The frequent troubles about the neck of the bladder should not be classed with the more extensive and violent disease of the organ proper, acute cystitis, commonly the result of trouble at the neck, which may be due to various causes, some of which are trifling in character. Voluntary retention of urine is not infrequently promotive of inflammatory action of the entire mucous wall of the female bladder. Recently married young women are often subjects of irritation at the neck of the bladder, from excessive indulgences. The menstrual period is not seldom accompanied by vesical annoyance. Calculi and gonorrhœa are among the more common causes of acute cystitis. Exposure to cold, and an acid secretion of urine, are not rarely factors in the causology. Though we are at no loss for causes of inflammation of the bladder, your correspondent has failed to discover, under repeated post mortem examinations, more than a circumscribed area of diseased surface. When due to external causes, the trouble is generally confined to the neighborhood of the vesical

sphincter. If the result of offending calculi, it is circumscribed to the region where the causes are located. The infundibulum, or that part of the vesical just internal and posterior to the sphincter muscle, being the most dependent as well as of different anatomical structure, is the common location for the deposit of the insoluble salts of the urine, and hence, of disease.

Treatment of acute cystitis should be based upon the common principle of removing the cause and promoting rest to the part affected. If due to calculi, unhesitatingly they should be removed. When acute and general cystitis is the result of other than of such traumatic cause, or of specific urethral origin and complicated with strangury and pain, and, often as it is, with vaginismus and spasm of the muscular wall of the bladder, there is a condition which demands a hasty relief, for it is critical, not only from intensity of fever and nervous excitement, but from jeopardy to other pelvic viscera. Suppurative pelvic cellulitis delights in such a cause. Gonorrhoeal inflammation of the bladder is of itself a serious trouble, but offers a more encouraging prognosis than acute cystitis of non-specific character. It is more rapidly understood, meets with more rational treatment, and is more amenable to a proper and conservative course of medication. In all forms of acute cystitis internal medication is indicated if not essential, but in violent acute inflammation of non-specific nature we will be often disappointed in our prescriptions. Where there is a state of acute and extensive inflammatory action with a discharge of sanious pus, intensity of pain and fever, aggravated by spasm of the muscular coat of the bladder, vaginismus, etc., it has been the writer's invariable experience to note immediate harm from all kinds of vesical injections. "The affected organs should be put at rest," the acid reaction of the urine and its acrid principles removed. Such a condition as above described more rarely comes about without the aggravation of unhealthy urine. How the desired "rest" may be attained may be surmised in relieving the organ of its physiological function. It is the receptacle and storehouse of the urine, but it should no longer receive it for accumulation. Free and perfect drainage is the *desideratum*, and its rational accomplishment consists in breaking the vesical sphincter. No dilating; its contractile resistance is too soon regained; but with complete anæsthesia, the patient having been already quininized to modify shock, the sphincter should be rapidly dilated until it is felt or heard to snap on the prongs of the dilator. It will recover its function soon enough. The bladder should then be carefully explored and any foreign deposit removed. Wash out the cavity with warm water, and have done with further direct interference. Bland mucilaginous drinks, with anodynes as indicated, will accomplish what else is needed to recovery.

Obstetric Oddities.

Dr. E. H. KEITH thus writes in the *Peoria Med. Mo.*, March, 1885:

Case 1. September 12, 1884, I was called to attend Mrs. H. in second confinement, æt. 22, a blonde and far below medium size. Examination discovered the os well dilated, with membranes tense and protruding. The head was certainly presenting, but it was the strangest head I had ever found presenting. The membranes ruptured during the examination, and the most fearful gush of water flowed from the patient that I had ever witnessed. On further examination I

found two soft, yielding globular bodies standing far out beyond the general outline of the face. The nose and mouth could also be outlined. When I attempted to reach the top of the cranium my fingers slipped over a rigid bony edge into a chasm of soft shapeless material. As I knew not what was following this strange mass, I desired counsel and sent for my friend, Dr. J. L. Hamilton. When he arrived I explained to him the situation as far as possible, and asked him to make an examination, and while he was doing so the anomaly was born. The body of the child was that of a girl, plump and very large. The eyes were large and protruding. The cranium was entirely absent, and a sac filled with a substance resembling small liver was in place of the brain. I intended making a further examination of the child in the morning, but it was taken away and buried before my visit.

The extreme size of the child, the shoulders being very broad, caused an extensive rupture of the perineum, which was immediately stitched and healed by the first intention.

Case 2. 6 a. m., October 21, 1884. I was called to see Mrs. L., the mother of one child; found her flowing badly. She said she had a miscarriage twelve hours before, and two hours previous to my arrival a second foetus had passed, and since the last had been flowing severely. I immediately removed a single placenta about 3x4 inches in diameter. The peculiarity of this case is the first foetus that passed seemed to be, from its size, of about two and a half months, and the last about four and a half months' gestation, both free from decomposition. There was but one placenta and a single cord. Was this a second conception two months after the first or a case of retarded development?

Case 3. Was called October 26th to wait on Mrs. B. in her second confinement. Patient had been having occasional labor pains during the last two days, but they were occurring every ten or twelve minutes. Os dilated and soft. I discovered that I had a breach presentation to take care of. I discovered also that there was no sac of water and no membranes, as well as a dead foetus and an anomaly. The second stage was completed at the end of four hours after my arrival, and there lay a child just born that had been dead about three weeks. It was of about eight months' development. Its lower limbs flexed upon the stomach and breast, and the limbs were united firmly together from the breach to the little toes; not a sulcus or groove between the limbs to indicate the point of connection. The bones of each limb were perfect, as they were easily traced through the decaying tissues. I was unable to determine the sex of the foetus. The third stage of labor was completed without difficulty. The uterus had contracted into a globular form and was quite compact and solid. I feared septic poison in this case, and at the end of the second day it was strongly manifested. Within a week, however, all septic symptoms had disappeared and the recovery was complete.

Congenital Papillomata of the Larynx.

Before the St. Louis Medico-Chirurgical Society (*St. Louis Courier of Medicine*, March, 1885), Dr. TODD said that last summer, just before preparing to leave for his vacation, a little mulatto child, two and a half years of age, was sent to him by Dr. Prewitt. This child was unable to talk at all, breathed with diffi-

culty, and was in the last stage of extreme emaciation; the child evidently had but a short time to live under the conditions then present. The child never had been able to breathe freely, and its crying was more like the mewing of a cat than anything else. Of course this indicated a laryngeal obstruction of some kind. To his great surprise, the child submitted at this early age to a laryngeal examination, and he saw that the larynx was blocked with a tumor. The child was so feeble that it could barely hold its head up. Tracheotomy was necessary immediately. Dr. Prewitt performed the operation at Dr. Todd's request. He felt that if this were not done the child might die at any minute, as œdema of the larynx was threatened. At the end of one week it had greatly improved in strength, and when he returned in September he hardly knew the child, it was so robust and looked so entirely different. Dr. Todd considered this one of the very rare cases of congenital tumor of the larynx. Mackenzie, in his latest work, published in 1880, speaks of only twenty-three recorded cases of congenital tumor of the larynx; he himself had only seen two such cases. In the edition published in 1871, he said that such tumor had never been seen with the laryngoscope in any patient less than three years old. Dr. Todd said he tried to remove the growth in the usual method with the forceps, but the child had improved so much at that time that he could not make the examination so as to get a view of the larynx. He had never seen the tumor since the first examination. The child proving refractory, he concluded to adopt the method recommended by Voltolini, that of rubbing it off by using the sponge probang. He had no difficulty in entering the larynx. He attempted this method without success. On closing the cannula in the trachea, the child would speedily become asphyxiated. So he concluded that there was no use of any further operation through the mouth, and advised that the larynx be opened, and the tumor extirpated in that way. As the case had been sent to him by Dr. Prewitt, he thought it proper that he should perform the operation, which he did, and the tumor proved to be a papilloma, and the entire interior of the larynx was filled with growths. It would have been of no use to attempt to remove them by the sponge and probang. Whether the child will survive the winter or not remains to be seen.

Dr. Glasgow said that sometime about 1873 or 1874, he saw a little darkey baby, about in his first year, which had never been able to talk; it seemed to have the peculiarity of voice that Dr. Todd spoke of, a sort of squeaky voice; it had very little dyspnœa. The child lived three or four months, and no post-mortem examination was made. This peculiar condition existed from its birth. The youngest child he had ever seen with a laryngeal tumor was nine years old, and that was a boy whose history could only be followed for a few years. He didn't think this was congenital.

Dr. Todd asked Dr. Glasgow's opinion whether there might be an intra-uterine cause for this growth. The mother suffered during her pregnancy with tonsillitis, at times very severely, and was subject to attacks of tonsillitis. He would like to ask if Dr. Glasgow thought that might have had any effect upon the production of this condition of the child—whether the congenital growth was due to this condition of the mother?

Dr. Glasgow's impression was that it was simply a coincidence.

Recovery from Noma.

In the *Russkaia Meditz.*, No. 42, 1884, p. 861, Dr. ZINAIDA J. ELTZINA, of the Elizabethan Hospital for Children, St. Petersburg, describes a rare case of recovery from water-canker. The case was that of a weak rachitic girl, aged 2, who was admitted to the hospital with measles in the eruptive stage and ulcerative stomatitis. On the sixth day after admission, desquamation began. The stomatitis and general weakness progressively grew worse. On the twelfth day a hard swelling of the right cheek and upper lip appeared. Within the next week gangrene both of the oral mucous membrane and integuments developed itself, and dead tissue sloughed away, leaving a hole large enough to admit a finger. On the twenty-fourth day the temperature fell to the normal level, and granulations became visible. By the fifty-eighth day, cicatrization was complete. After sixty-nine days' stay the patient left the hospital quite well. The local treatment consisted—(1) in powdering the ulcerated surface with magisterium bismuthi, in substance, three or four times daily; (2) in painting the mouth with a 2 per cent. watery solution of resorcin; and (3) in washing out the mouth with a solution of chlorate of potassium. Dr. Eltzina seems to think that the favorable termination of her case is not altogether accidental, but must be at least partly attributed to the use of subnitrate of bismuth. "It is likely," she says in conclusion, "that magisterium bismuthi will prove the best means of dressing in cases of noma; at all events, it decidedly deserves a further trial." In the *Vratch. Vedom.*, Nos. 418, 419, and 420, 1880, Dr. Krasin reports two cases of noma in a peasant woman, aged 43, and her daughter, aged 8. Both of them were half-starved, and for six months suffered from malarial fever without undergoing any medical treatment. They came under the author's observation in about two weeks after the appearance of the first signs of water-canker, and were treated by nourishing diet, wine, and quinine, and, locally, by washing out with chlorate of potassium, and dressing with hygroscopic cotton-wool soaked in a watery solution of turpentine oil. In a week or so the destructive process was arrested; but in both of the patients severe diarrhœa intervened, to which in the adult woman a profuse hemorrhage from the destroyed vessels of the cankerous region added itself. Both of the cases ended fatally from exhaustion—one in two and a half, the other in three weeks after admission.

Icterus Neonatorum.

Dr. HENRY ASHBY thus writes in the *London Med. Times*, April 25: There are few of the commoner diseases that we meet with in practice concerning which so many hypotheses have been offered, and yet upon which so little definite knowledge exists, as the peculiar form of jaundice so common in newly-born infants. In the minority of cases, those which go on to a fatal issue, the complications noted during life or the results of the *post-mortem* examination generally clear up the case, or at least provide an explanation of the icterus. To this category belong those cases of jaundice which are due to congenital defect or obliteration of the common bile-duct, and syphilitic hepatitis or cirrhosis. Jaundice also, as is well known, accompanies the condition of septicæmia secondary to arteritis or phlebitis of the umbilical vessels. It was also present in some peculiar cases of hæmoglobinuria, observed by Winkler in the Dresden foundling institution in 1879.

The common form of infantile jaundice, however, to which the name of *icterus neonatorum* is applied, is but seldom fatal, and has nothing in common except in name with the above fatal forms. It is first observed on the second or third day after birth, is especially common in the premature and weakly infants, and disappears without any bad symptoms having manifested themselves in the course of a week or ten days. To explain this condition many hypotheses have been propounded, though the majority of them rest on no very secure foundation of fact. The older view, quoted with approval by Murchison and West, that the yellowness of the skin was no true jaundice, but was due to the changes which the blood-coloring matter extravasated into the over-congested skin underwent before being finally absorbed, has at the present time hardly any supporter. The fact that there is no relation between the depth of the redness and the succeeding jaundice, as also the bile-stained condition of the internal organs, suffices to negative it. Frerichs, Cruse, Birch-Hirschfeld, and many others, have propounded more or less ingenious hypotheses during recent years. Perhaps the simplest and most plausible explanation yet given of the jaundice is that of H. Quincke, who in a recent article (*Archiv. für Experimentelle Pathologie und Pharmacologie*, xix., 1 and 2) maintains that the *icterus* is due to the continued patency of the ductus venosus. He points out that during the foetal life the blood of the portal vein contains no bile-pigment, or exceedingly little, inasmuch as no digestion takes place, and hardly any bile enters the intestine. After birth a striking change ensues; as digestion commences, bile is poured in large quantities into the small intestine, a small amount is absorbed by the portal vein, and conveyed to the liver where it is separated from the portal blood and re-enters the bile duct. Should, however, there be a delay in the closure of the ductus venosus, a certain portion of the portal blood containing bile enters the general circulation through the open duct, and gives rise to a more or less intense jaundice, which disappears on the obliteration or contraction of the duct. Other conditions are cited which favor jaundice in the newly-born, viz., (1) the destruction of the foetal red corpuscles, which is said to take place after birth, supplies much material for the manufacture of bile pigment; (2) the epithelium of the infant's kidneys does not as readily as that of adults excrete bile-pigment, as evidenced by the bile-pigment deposited in the epithelium in cases of jaundice, and its absence or existence only in small quantities in the urine; (3) bilirubin does not so readily change into urobilin in the intestines of infants as in that of adults, as evidenced by their golden yellow stools.

It is certainly curious that so simple an explanation should have been overlooked by previous writers, and one that has the merit of fitting in fairly well with facts. Thus, if this view is true, it would explain why immature and weakly children should be more liable to jaundice than the full-time and strong infants, inasmuch as in the former the duct would be larger at birth and continue open for a longer period. In cases also where there was atelectasis and obstruction through the lungs, and consequent stasis on the right side of the heart, producing passive congestion of the liver, the blood of the portal vein would more readily pass direct into the inferior vena cava through the open duct, than pass through the capillaries of the liver. As far as I know, but few observations have been made to test this hypothesis by *post-mortem* examination. In one case ob-

served by myself (recorded in the *Medical Chronicle*, Vol. I., No. 1) where jaundice made its appearance on the second day and the infant died on the eleventh, the ductus venosus was open, and admitted easily an ordinary director. Examinations, however, are also wanted in cases dying within a few days or weeks of birth without any jaundice, to see if the duct is patent or not. In this way there ought to be no difficulty in quickly disproving or confirming the latest hypothesis on this interesting form of jaundice.

A Case of Dermoid or Piliiferous Tumor, With Cure by Spontaneous Opening into the Intestine.

Dr. WALTER F. ATLEE thus spoke before the College of Physicians of Philadelphia, March 4, 1885 :

M. C. came to me in May, 1884, on account of a lump she had that day discovered in the lower part of the belly. She was thirty-two years of age, of medium size, with the appearance of good health. Her menses always came regularly every four weeks, never were profuse, and, as a general rule, lasted but two days.

This lump appeared to be egg-shaped, the long diameter in the direction of the spinal column, in size perhaps six inches in its greatest length, and placed rather above the womb, and somewhat to the left of the median line. She complained of pain and of obstruction to the passage of the stool. For this condition the use of a pill composed of opium and of the compound extract of colocynth was advised. A few days afterward, on account of complaint of difficulty in passing the urine, a drink of bitartrate of potassa was recommended for use. In July, on account of troubles of digestion, bismuth and strychnine were prescribed, to be used before meals, and pills of carbonate of iron to be taken after. Early in September pills of ergotine were ordered, and their use was continued again in October and in November and December. During this time the lump appeared to be growing rather smaller, and it was certainly becoming softer. On the eleventh of November a considerable quantity of matter like thick gruel, white, and with no odor, came away from the bowel. This, under the microscope, was seen to be composed of the exfoliated epithelial cells and the secretion from sebaceous glands. This continued to come from time to time, and, as it did, the lump became smaller. On the tenth of January hair began to come, some of it long and very black, and the most of it of a light brown, and but four or five inches in length. On the sixteenth of January the matters that came away were very small in quantity, greenish in color, and of a very bad odor. Since that time there has been nothing of notice in the discharges from the bowels, except twice a slight quantity of blood. There is now no sign of the tumor.

These dermoid or piliiferous tumors are interesting, surgically, from the obscurity they throw over diagnosis, and in the complications they occasion. In the case just related the tumor was believed to be a uterine fibroid for several months ; in fact, until it was observed to become quite soft, from hard, as it had always been before. In a pathological point of view their interest is very great indeed, and also in one of comparative physiology. By far the larger number of dermoid cysts—indeed, the immense majority of them—are ovarian; but no matter in what part of the body they may be found, or what may be the sex of the patient, the doctrine of “ the continuous development of tissues out of one

another," as Virchow calls it, will suffice to account for the growth of all ordinary dermoid or piliferous tumors. Inherent in the tissues of the body is a peculiar formative and reproductive power, and it operates in the production of these strange tumors, as it does in the large number of multiform morbid growths which spring up everywhere under circumstances impossible for us to explain.

In ovarian morbid growths, the kind of tumor that is formed depends upon the strength of the formative impulse. In ordinary cases the force of formative power goes no further than the production of cyst-walls with a secreting endothelium which pours out fluid contents. In some cases the cell-growth is enormous, and yet there is no disposition to organization, and piliferous excrescences, cancerous and colloid masses, show themselves. In others again, imperfect attempts at organization are seen, as in those called dermoid or piliferous, on account of what is most usually found in them.

The origin of all these cysts is traced, indirectly by way of exclusion, and directly by way of observation, to the development of the ovisacs or Graafian vesicles; and, when we consider what these ovisacs are, we need never be surprised at the contents of these cysts, and at the abundance, the nature, and the variety of these contents. When skin, hair, teeth, and so on, are met with, it is quite in accordance with known facts in comparative physiology to look upon tumors containing them as imperfect attempts at organization arising from the powerful germinative aptitude of the ovary. The formation of imperfect tissues is reached without ever going so far as the formation of an organ, let alone that of an organism. Such formations may be looked upon as examples of pathenogenesis, as imperfect vestiges in the higher animals of a regular physiological act in some of the lower ones.

Forceps in Breech Presentations.

Dr. T. M. ROCHESTER reports the following case in the *Amer. Jour. Obstetrics*, April, 1885:

Case.—On January 1st, 1881, at about 1 a. m., I was called to see B. H., aged 21, primipara, unmarried. I found her in labor and very much exhausted, and learned that she had been having pains for about twenty-four hours, which had been severe up to two hours previously, when, probably owing to the condition of the patient, they had commenced to die away. On examination, I found the breech presenting in the second pelvic position, right sacro-anterior. At this time the child had descended to about midway between the superior and inferior straits. The uterine contractions were irregular and feeble, and the woman decidedly worn out. I gave a stimulant, encouraged her all I could, endeavored to excite "pains" by kneading and friction over the abdomen, and attempted to assist the progress of the child by making traction with my finger hooked into its groin. These means not succeeding, after about an hour and a half I gave the woman half a drachm of fluid extract of ergot, administered chloroform, and applied forceps to the breech, when the body was speedily and safely delivered. The head was quickly extracted by making pressure above the pubis with the left hand, while the right fore-finger was hooked into the child's mouth. By this manœuvre, in the present case, less time was consumed in the delivery of the head than would have been by the re-application of the forceps. The placenta was

extruded by expression, and firm contraction of the uterus was obtained. The child, which was a large one—estimated at ten pounds—was born alive and uninjured by the forceps.

In considering this case, both at the time and since, it seems to the writer that the application of the forceps to the breech was the proper thing to do. The fact that descent was partially accomplished, and that both lower extremities were bent up parallel to the anterior surface of the child, made the possibility of safely pulling down a foot exceedingly dubious, while the condition of the mother demanded that expedition should be used. At the time, this use of the forceps was entirely novel to the writer, and yet it occurred to him that it was decidedly preferable under the circumstances to the attempted use of the fillet or blunt hook, either of which might have been unavailing and, especially the latter, likely to have been attended with more danger both to the child and the mother. If the forceps are *properly* used—with the *head* as well as the *hands*—and traction is made gently and *only* synchronous with a pain, no injury can result. Great care should be taken to see that they are properly fitted to the breech, so as to avoid injury to the child's pelvic bones. A slight degree of compression is all that is required or safe—just enough to prevent slipping; and the traction should be made directly in the axis, without any, or very little, of the “to and fro” motion which is so serviceable in the instrumental delivery of the head.

Under similar circumstances, in view of his experience in the above case, the writer would unhesitatingly apply forceps to the breech in preference to using either the fillet or blunt hook.

How to Prevent Septicæmia in Cases of Morbidly Adherent Placenta.

Dr. KEITH NORMAN MACDONALD thus writes in the *Brit. Med. Jour.*, April 18:

With the exception of *post partum* hemorrhage, adherent placenta is one of the most troublesome after-consequences of the lying-in state. It is, moreover, much dreaded by many practitioners, owing to the probability of septic matter finding its way into the circulation; but that an ordinary case need not give rise to any extraordinary alarm, the following history well illustrates.

Mrs. S., aged 38, six years married, and mother of one child, five years having elapsed since her last confinement, which was a forceps case with partial placental adhesion, was taken in labor at midnight of December 29th, 1884. The pains were moderate and regular; and I was sent for at 7 a. m. in the morning. The case was apparently natural; the second stage was rather prolonged, owing to the head resting for more than an hour on the perinæum, but was completed at nine o'clock, two hours after my arrival at the house, there being nothing unusual about it, except that the child, a female, appeared feeble, and the cord was unusually small.

During twenty minutes she retched several times, though firm compression was applied externally: she said that she had done so during the entire period of her pregnancy, and also had a “pain in her side.” After this interval, I tried to remove the placenta, but found that it was adherent to the fundus of the uterus, and, as far as I could make out, all round. After a further delay of half an hour, I re-introduced my right hand, carbolized, made firm traction on the cord, and

tried to peel it off, but it was of no use. The contractions of the uterus prevented my getting hold of the edge of the placenta, and, as I could remove nothing but clots of blood, I dug my fingers into its substance, and removed two small pieces, as much as I could do with safety, certainly not more than one-third of it; and after repeated attempts at extraction, I determined, very unwillingly, to let the case alone for a time, and to renew my attempts under chloroform if necessary, leaving the cord attached for future guidance. Before leaving, I applied a firm binder with pad, gave her some whiskey and ergot, and left her, for a time, none the worse for her rough handling.

Feeling that it would be very unsatisfactory to leave her in this condition, I resolved, after a few hours' further rest, to remove the coagula of blood that had collected in the uterus, if I could do nothing more; and accordingly, at 7 p. m. the same evening, with the assistance of my friend Dr. Whitelaw, she was put under the influence of chloroform, when I again introduced my hand, carbolized, into the uterus, and removed a quantity of clots, but could make no impression upon the still firmly-adherent placenta. I did, therefore, consider further interference unjustifiable; therefore, after removing other two small pieces of the placenta, with the cord, I bound her well up, gave an opiate, ergot, and brandy, and left her for the night, after syringing the uterus and vagina well with a weak solution of Condyl's fluid.

December 30th. She passed a fairly good night, retched once, and expelled a small coagulum of blood. The lochia were normal; the secretion of milk was established; pulse 94, and weak; temperature 99° Fahr. There was no tenderness over the abdomen, which felt fuller than usual. A solution of carbolic acid (1 in 40) was now substituted for the Condyl's fluid, and five grains of quinine were ordered every four hours. This was a very important step in the treatment, as will afterwards be seen; and I have no doubt whatever that the early use of an antiseptic lotion, and the free administration of such a powerful febrifuge as quinine, prevented the propagation of septic germs in the system.

On the morning of the 31st, after passing another good night, and nursing her baby in the meantime, she had a severe rigor at 10 a. m., when the pulse rose to 130, and the temperature to 105° Fahr. This was, in all probability, the beginning of blood-poisoning; but the assiduous application of the lotion and the continued administration of quinine evidently rendered the septic agent abortive, as all the symptoms subsided towards evening, and no tenderness on pressure over the abdomen was felt; and, as far as her feelings were concerned, she felt fairly well, though the secretion of milk was considerably diminished in quantity.

On the morning of January 1st, 1885, she had another rigor at 9 a. m.; and the pulse again rose to 130, and the temperature to 104° Fahr. The milk was almost suppressed. After this, the child was not again put to the breast. The lochia were slightly offensive, but normal in quantity. The rigor began to subside towards midday; but the pulse and temperature continued high, but without any increase in the evening. Still there was no abdominal tenderness.

On the morning of January 2d, the lochia seemed more offensive. A small portion, about three fingers' breadth, of the placenta had come away. There were more rigors. Pulse still 120; temperature 103°. She said that she felt much better, and wondered at my close attention to her.

On the 3d, the pulse came down to 96, and the temperature to 100°; the lochia were slightly increased, but there were no more portions of placenta. However, on the morning of the 4th, another piece, much the same as the last, came away, and from that date she continued steadily to improve without a bad symptom. The lochia continued a little longer than usual, but, in other respects, presented no features calling for remark. To err on the side of safety, she was kept in bed for eighteen days, after which she immediately resumed her household duties.

The most noteworthy point in the above case was the early stage at which the quinine was administered. Had I waited until there was a considerable rise of temperature with abdominal symptoms, I should probably have been too late. As it is well known that this important remedy possesses the power of destroying minute organisms outside the body, it is but a reasonable inference that it should also destroy, at all events, certain micro-organisms forming, or about to form, within the body. It was with this latter intention that I resorted to it at such an early stage, and the result shows that I was justified in doing so. The removal of the clots ten hours after the confinement I also consider an important item, perhaps the most important of all; for, if they had not been cast off, septic matter could scarcely have failed to enter the system.

I cannot account for the remainder of the placenta. Probably it did soften and come away with the lochia; but, if so, it was in a very unostentatious manner, as I am at a loss to understand how it gave so little trouble.

Two Cases of Menorrhagia Produced by Mental Disturbance.

Dr. H. W. KINNEY thus writes in the *Detroit Lancet*, April, 1885: I believe that menorrhagia should always be regarded as a symptom, and one that may be produced by a great variety of both functional and organic affections.

Hence, differentiation at once becomes the most important and most difficult of the physician's duties in reference to this condition.

The causes which I have assigned for the increased menstrual hemorrhage in the following cases, that of mental shock and continued agitation or worry, for some reason are not mentioned by a number of the authors that I have been able to consult; but I believe that physiology and clinical experience will bear me out in the assertion that a violent mental shock, or continued agitation, may materially disturb the functions of any organ in the body.

Thus it is well known, that a severe fright, or continued mental worry, often perverts the functions of the mammary glands during lactation, produces jaundice, suspends digestion, causes an increased flow of urine.

Hence it cannot be surprising that the menstrual function of the uterus should be disturbed by the same causes, and the catamenial flow be increased in quantity, even when the organs of the pelvis are in a normal position and free from any organic affection.

It is not, however, the purpose of this paper to discuss the mechanism of psychological influences in disturbing the functions of this particular organ, but simply to report the following cases, in which the increased menstrual hemorrhage could not be traced to any other cause than the ones I have assigned.

Mrs. K., a short, fleshy lady, 35 years of age, and mother of five children. Menstruation made its first appearance at the age of fourteen years, being

accompanied with but slight pain, and with the exception of the interruption incident to pregnancy and lactation, occurred every 28 days, the flow being moderated in quantity, and usually continuing about three days, until the 15th day of January, 1883, when, just two days prior to the catamenial period, she received a severe mental shock, caused by her husband being brought into the room, apparently in a lifeless condition, and covered with blood, at the sight of which she fainted, and on being restored to consciousness, observed that she was flowing quite profusely, which continued for eight days.

At each subsequent period the flow appeared just two days earlier than the accustomed time prior to the shock, and usually lasted from eight to ten days, leaving her feeling weak and exhausted.

When I first saw her, June 15th, she was flowing most profusely, and had been for nearly a week; in fact, to use her own words: "If she stood on her feet the blood would come in perfect gushes."

After satisfying myself that she was not suffering from an approaching abortion or miscarriage, I inserted a tampon and gave ext. ergot, fl. oz. ss., tr. digitalis drops xx., then ordered 20 drops ergot and 2 grs. quinine every three hours. The next day she felt much better, the flow having quite ceased. I then ordered a mixture of iron and quinine, and suggested the propriety of a physical examination of the organs of the pelvis as soon as her condition would permit. I made the examination July 30, but failed to discover any displacement or organic affection of any of the organs of the pelvis.

After ascertaining that there were none of the other conditions existing which are said to produce menorrhagia, such as constipation, menorrhagic diathesis the various blood dyscrasias, or disease of any of the other organs of the body, and taking into consideration the history of the case, I concluded that the excessive uterine hemorrhage was the result of the violent mental shock and subsequent worry during her husband's illness. The treatment consisted of the use of such medicines as phos., iron, quin. and strych., and just prior to and during the first stage of the flow, ergot in full doses, four times a day. Under this treatment menstruation returned to its normal condition in the course of three months.

Miss G., aged 30 years, a single lady, above the medium height and rather delicate, in whom the menstrual function first made its appearance at the age of fifteen years, the flow being rather scanty, usually lasting about four days, until the spring of 1883, when she met with some financial embarrassment causing her considerable mental anxiety, added to which was the grief incident to the death of an only brother. This occurring just prior to the menstrual period, the flow appeared at the usual time, but was far more profuse and lasted much longer than usual, and continued to increase at each subsequent period, also being accompanied with many of the phenomena indicative of extreme exhaustion.

When I saw her, November 25th, she was in bed, for if she assumed the upright position it caused her to feel faint. She looked very pale, in fact there was but little color in the mucous membrane of lips and mouth; on inquiry, I found that she was flowing, and had been for some days, although she was taking medicine to check the hemorrhage, and applying cloths wrung out of cold water.

I immediately inserted a tampon, and gave ergot ʒss., tr. dig. drops xx; then

ordered twenty drops of ergot and two grains of quinine every three hours, with an occasional spoonful of brandy. This was continued for twelve hours, when I removed the tampon, and found that the hemorrhage had quite ceased.

I then ordered elixir of iron, quinine and strychnine, a teaspoonful in a tablespoonful of brandy four times a day, and in a few days made a thorough physical examination of the organs of the pelvis; but as far as I was able to discover, they were normal in every respect, and free from any organic affection.

As I was able to exclude all the causes arising from the various conditions of the blood, turning my attention to the other organs of the body, I examined each in turn, but was unable to find any condition that might account for the excessive hemorrhage.

Therefore, after this thorough investigation, I felt quite sure that it was a case of menorrhagia caused by mental worry.

The treatment consisted of a continuation of the previous prescription with an occasional laxative, and vaginal injections of hot water twice a day, also ergot and digitalis just prior to and during the first part of the flow.

This treatment, with slight variations, was continued for four months, at which time she was much improved in spirits, and the flow had diminished to its former duration and quantity.

Intestinal Obstruction in the Child.

Dr. LAOHLAN TYLER thus writes in the *Am. Jour. Obstetrics*, May, 1885: Of the three visceral cavities, surgical attention is being now especially directed to the abdominal, and it is chiefly for this reason that I have ventured to select the above title as the subject of my communication. From all appearances, it is highly certain that surgical interference in this locality will, in the near future, be far more frequently considered as of vital importance, and consequently introduced oftener in treatment.

It is well known that obstruction in a child—by which term is here meant one who is under the age of puberty—is liable to arise from various causes, congenital stricture of the duodenum and even cancerous growths being among those of greatest rarity that have been recorded, the latter having been found at an age as early as three years.

But, of all the diseases in this connection, intussusception, in many respects, proves to be the most remarkable, not only on account of its anatomical nature, but also for the relative frequency of its occurrence, and for the great amount of danger with which it is ordinarily and immediately accompanied. It would appear that there is everything in childhood most conducive to its production. For whatever be the condition or set of conditions associated with it, the essential factor, first or last, is nervous action.

The intestines are richly supplied with nerves, and briefly to rehearse, receive impulses not only from so-called "independent" centres of innervation having an intra-mural situation, but are also excited to peristaltic action in reflex manner by irritation of their mucous membrane, and through the pneumogastric and splanchnic nerves respectively, are brought directly under the exciting and inhibiting influences of the centres residing in the brain and spinal cord.

It will thus be seen how they are placed under control of a number of different

nervous influences, and may as readily experience every possible effect of the emotions upon them as any that may be derived from impressions acting upon the spinal system.

Up to the seventh year, during which term it has been estimated that fifty per cent. of all cases occur, the emotions are easily roused, and the spinal system, in gradually lessening degree from the beginning, is extremely irritable. Convulsive phenomena are more or less constantly being exhibited, if not in groups of muscles, then within fibrillary limitations of them. Involuntary action continues for some time to be that which predominates, and at an early period it may almost be said that there is little or no distinction to be made, excepting it be the histological one, between striated and non-striated fibre.

Without entering into a discussion of the question as it refers to the adult, there would seem, according to the foregoing statements, to be no room for doubt as to the possible occurrence of a tetanoid state of the intestine in early childhood especially; and further, that it always acts more decidedly than paralysis as a factor in the production of intussusception. Such being true, it may exist by itself, or yet more assuredly with paralysis in contiguous portions of the intestines, in either event having little else besides to be required. A moderate amount of vermicular movement in one or the other direction—forward or backward—conjoined or not, as the case might be, with compression force put into operation by the action of the muscles in the abdominal parietes—being in reality about all.

On the other hand, paralysis of a segment of bowel alone, even though it be accompanied with an accumulation of flatus and by violent peristaltic action elsewhere, and possibly also by compression force, would, in all probability, not lead to intussusception. The same may be said of clonic spasm, because of the neutralizing effect which its two elements, contraction and relaxation, would be likely to have upon each other. Moreover, it cannot be conceived how the ileum, when the whole intestine is intrinsically normal, could ever, by any degree of peristaltic or compression force capable under the circumstances of development, be thrust along with or through the ileo-cæcal orifice into the pouch of the cæcum, because the resilient property of which it is possessed would alone be enough to almost, of a certainty, interfere to prevent it. It is thus seen that even in this locality, where in the largest number of instances the disease is apt to originate, and in explanation whereof the most favorable anatomical conditions are found to exist, a tetanoid disorder of the ileum, with or without adjoining paralysis of the cæcum, or valve, is doubtless also the necessary prerequisite to its intrusion into the colon.

The spontaneous reduction of an intussusception, which after a more or less painful existence is believed to happen occasionally, can, if such is the fact, be set down as quite certainly due to relaxation of the spasm affecting the gut, either before the inversion has progressed very far, or before it has lasted sufficiently long for adhesions to have formed. Finally, to be still more explicit, it is repeated, but with greater emphasis, that tonic spasm occurring in the continuity of the small or large intestine, but especially in the ileum in the vicinity of the ileo-cæcal opening, is no doubt in every instance principally necessary to the production of intussusception in any degree whatever, unless a single exception

be made in the case, barely possible and very improbable, of its being caused by the simultaneous, but in some way unequal, occurrence of anti- and peristaltic action in neighboring parts of healthy bowel.

The treatment of intestinal obstruction, used in a general sense, is governed by so many circumstances that it would take more space than I could be excused for occupying, by going beyond a certain point into particulars. There are, as is well known, acute and chronic instances of the disease: some in which surgical treatment is always deemed indispensable; others in which the expectant plan is alone admissible; and still others, either of doubtful or of certain character, in which, after the usual and time-worn remedies applicable to them have been tried in vain, the question arises, What is to be done?

Hours of consultation, days and nights of dissatisfaction, and years of procrastination, as far as the advancement of our science is concerned, would be obviated were we able to settle upon a definite course of procedure.

Surgery in competent hands, aggressive only in order that it may become progressive, is infusing into the healing art new constituents of strength in rapid succession. It has acquired broader meaning than formerly, and its principles are more clearly defined and more scientifically put in practice. Terms like the one *brilliant*, adjectively applied to an operation, are much less often used; the surgeon's "beneficent blade" flashing in and out of the tissues (if so be it flash at all), does so more under the guidance of a studious and deliberate mind than of an eager and of a precipitate hand. In presence of its wonderful achievements, confidence becomes strongest as to its grand possibilities, and is seldom withheld where resort to it is thought sufficiently justifiable.

The occasion for making use of it appears to be as evident here as anywhere else. The fact that cases of the kind under consideration often recover when left to Nature should really constitute one of the strongest arguments in support of its utility. For it only shows that recovery is possible under circumstances generally the most unfavorable. The small amount of danger, comparatively speaking, which attends abdominal section for exploratory purposes should, above all else, induce us to shorten the duration of time usually consumed in the employment of the more conservative measures of treatment, particularly in cases that cannot in practice be discriminated. The benefit of any doubt should, properly speaking, be given to the patient, by means of surgical interference in the earlier stages of the affection, no matter what it may be supposed, while the general condition of the system is best, and before local complications shall have had opportunity to arise and become multiplied. If, after the section has been performed, a state of things is found which can be remedied, so well and good; but, conversely, if one that cannot be so done is discovered, or even if nothing can be found after careful search, the incision could be closed and the patient left to the subsequent course of events, not necessarily much worse off than before, but generally with every uncertainty concerning his true condition once and for all cleared away.

After ineffectual attempts at reduction by less heroic means have been made in infants under two years of age, the mortality accompanying intussusception is usually so much the rule that there ought to be little, if any, hesitation felt in subjecting them especially, and at a seasonable time, to the operation of laparo-

tomy. Separation of the invaginated portion of bowel by natural processes is so rare an event as to be seldom, if at all, expected; the scene almost invariably terminating beforehand in the death from exhaustion of the little sufferer.

While more especially advocating the operation in any case at the earliest moment consistent with ordinary propriety, I do not by any means intend to inveigh against it in the later stages of this, and certain other kinds of intestinal obstruction. We should not be deterred from operating in cases otherwise suitable, even if time enough has elapsed for gangrene or peritonitis to have supervened. The operation has been made in the height of a peritoneal inflammation in the adult, with the double result of relieving an intestinal accident, and of tending, apparently, to cure the peritonitis. On the other hand, if large tracts of bowel can, with considerable security to life, be slowly sloughed away, it is reasonable to believe that they could with greater safety be at once cleanly resected. I submit, therefore, the perfect propriety of performing resection in any case where adhesions have formed, or where necrosial changes have developed, to make the effort at disengaging the bowel a perilous undertaking in view of the possibility of causing its laceration, with the consequent escape of the intestinal contents into the peritoneal cavity, etc.

Where the case is one of invagination, the aim should be to include in the resection all of the parts affected with gangrenous changes, or, when these are not displayed, enough to afterwards permit of the withdrawal of the remaining portion of bowel contained, or, in other words, the neck or point at which strangulation occurs. But if from any cause it could not be withdrawn, a virtue might be made of necessity, and it could be left without undue apprehension of evil *in situ*, to be discharged *per anum*, as a foreign body. The principal advantage of the operation, however, would still be conserved, seeing that divided extremities of healthy intestine could nevertheless be securely united to each other, and placed under conditions the most desirable, looking toward the earliest and safest completion in them of the reparative process.

Provided the suturing and the various other matters pertaining to the surgery were, as they should be, thoroughly done, perforation would be much less apt to occur than if Nature were not interfered with; and in the rapid recovery which would be had (if it were destined to take place at all), the chances of blood-poisoning and exhaustion would be considerably diminished, while ultimate cicatricial contraction to the point of obstructive narrowing of the intestinal calibre would not have to be counted so strong a probability.

VII. SURGERY.

Burnt Alum as a Dressing Material.

The *London Med. Record*, April 15, 1885, says: In the *Vratch*, No. 3, 1885, p. 38, Dr. B. Goldfeld writes that while searching for a cheap, safe, odorless, and non-volatile antiseptic dressing material, which could be conveniently used in poor peasant practice, he employed powdered burnt alum, and found the drug worthy of further trial. Burnt alum used alone gave satisfactory results in the treatment of numerous cases of syphilitic and scrofulous ulcers, and of frost-bite as well as in dressing wounds after minor operations (such as opening phlegmons and abscesses, amputation of fingers and toes, etc.). In all the cases where the wound from the outset was free from putrefaction, it ran its course wholly aseptically under alum dressing. It proved otherwise in regard to wounds which, when they came under observation, were already in a putrified condition; here, alum alone was found quite powerless to destroy the offensive odor, etc. In view of the failure, the author decided to dress wounds with a mixture of 4 parts of alum and 1 part of iodoform, and after an extensive trial he arrived at the conclusion that this combination not only forms a reproachless antiseptic dressing material, but gives still better results than iodoform used alone. According to the author, the chief advantage of this styptic drying mixture of alum and iodoform is that granulations are less "juicy" and less inclined to bleed than in the case of iodoform alone.

False Doctrines in the Treatment of Fractures.

From the *Med. Rec.*, May 16, 1885, we note that Dr. JOHN B. ROBERTS, of Philadelphia, read a paper on this subject before the Am. Med. Ass.:

He thought that the employment of the primary bandage under the splint was often unnecessary and sometimes did harm. The ensheathing callus was not so essential as usually claimed, if perfect apposition be secured and maintained. When fracture occurred near to, or involving the joint, early passive motion was not only of no avail in preventing ankylosis, but might even aggravate the condition by setting up inflammatory action. In fractures not involving the joint, passive motion was unnecessary before the end of the third or fourth week. With regard to splints, he said that they were usually left on too long. In fractures of the forearm or leg he thought ten or twelve days long enough. In fractures of the cranium thorough exploration was less dangerous than neglect of the same. In fractures of the nose it was impossible to keep the arch in position with the usual adhesive plaster-dressing, and transfixion with pins was the better way. The axillary pad was useless in the treatment of the fractured clavicle, as it was only necessary to fix the posterior angle of the scapula. In fracture of the surgical

neck of the humerus the author dispensed with the internal angular splint, and in that at or near the elbow he preferred to place the arm in a straight splint. The interosseous pad in fractures of the forearm seldom accomplished what was claimed for it.

Measurement of the lower extremities was of much less diagnostic value than was generally supposed, as there are always normal differences between the two sides.

The Temperature and Pulse Chart in a Case of Catheter Fever.

To the Medico-Chirurgical Society of Edinburgh, (March 4,) Dr. JOHN HADDON describes this case:

It was a case in which he had been the nurse, Dr. M'Leod of Hawick the general practitioner, and Prof. Chiene of Edinburgh the consultant, and whatever credit surgical science had in the recovery of the case, he and Dr. M'Leod were agreed that such credit must be given to Prof. Chiene. After about eight years of more or less difficulty in micturition, owing to enlarged prostate, the illness began on 10th January, 1884, with great difficulty in micturition, while during the night the urine passed unconsciously. On 13th January, a soft catheter was passed, and about 20 oz. of urine withdrawn. The symptoms seemed somewhat relieved, but on 19th January they became worse, and on 20th January the patient was comatose. On that day, as no soft catheter could be passed, the silver prostatic one was passed at noon, and 30 oz. of acid urine taken off, followed by a white stream of pus. Death seemed imminent all that day. At 9 p. m. the bladder was again emptied, and washed out with a solution of corrosive sublimate. At 11 p. m. consciousness returned, and he began to improve. The emptying and washing of the bladder was continued, and after much suffering he began to recover. He was dressed for the first time on 23d April, and by the help of the catheter he continues in fair health. Sphygmographic tracings were also handed round, showing the character of the pulse throughout the attack.

Perifolliculitis in Plaques.

The *Practitioner*, March 1885, (quoting from *Ann. de Dermat. und Syph.*), tells us that Dr. LELOIR describes a new variety of perifolliculitis, which although not mentioned by authors, is yet, he believes, of frequent occurrence. The affected portion of the skin is elevated to the extent of two to five millimeters, the borders are sharply limited, and the *plaques* vary in size from a threepenny piece to a florin. The surface is red, sometimes bluish red. If the crusts are removed the surface is sometimes smooth, sometimes, on the contrary, slightly mammillated, never papillomatous. It is perforated by a number of small orifices varying in size from the point of a large pin to that of the head of a small pin. Many of these small apertures are plugged with thick pus. It is exceptional to find hairs. In addition to these small apertures, numerous yellow points are observed, which in their turn will become apertures when the surface over them gives way. These points correspond to glandular apertures. There is little local and no general reaction produced by the *plaques*. Dr. Leloir has observed eight cases. They occurred on various parts of the body, but never on the palmar or plantar

regions. The lesion is usually single; sometimes there are two *plaques*, rarely three. The disease is an inflammation of the glands of the skin, and its etiology is obscure. In two cases micrococci were found in the tissues. The affection arrives at its full stage of development in about eight days, and disappears under treatment as a rule within fifteen days.

Successful Nephrectomy and Nephrotomy.

The *Lancet*, April 4, says that a man, aged twenty-seven, has just left the Queen's Hospital, Birmingham, in capital health, after removal of his greatly enlarged right kidney by Mr. JORDAN LLOYD. The patient had suffered periodically from attacks of right nephralgia for nineteen years, and several experienced practitioners had diagnosed renal calculus. On November 18, 1884, the kidney was exposed through the loin, its substance incised, and its cavity explored with the finger. The kidney was found enlarged, dilated, and pouched, but without stone. Twelve days later the patient had an attack of nephralgia, followed by a kind of pyæmia. The wound at this time had nearly healed. The general health had so far improved that on February 8th Mr. Jordan Lloyd excised the kidney, through a wound made in the old cicatrix. The gland proved to be greatly enlarged, but its substance was thinned and dilated, without stone. The kidney measured eight inches in length, and the pelvis twelve inches in circumference. The patient rallied quickly, made a rapid recovery, and was discharged on March 19th, with a small discharging sinus in his loin, but otherwise, to all appearance, in perfect health. *La Gazzetta degli Ospitali* reports that on March 8th Prof. VINCENZO DAFFILO performed nephrotomy at the Ospedale degli Incurabili at Naples for suppurative nephrosis. The walls of the cyst, about three-quarters of an inch in thickness, were closely adherent to the lumbar muscles, the peritoneum, and the diaphragm. The edges of the wound in the skin and cyst were united by points of interrupted suture. The cyst, which had previously been evacuated eight times with Potin's aspirator (yielding a pint and three-quarters of purulent liquid each time), was again emptied in the same way on March 8th. The free extremity of the twelfth rib was resected at the same time. The operation was completed under ether in forty minutes, with the strictest Listerian antiseptic precautions. The temperature has not exceeded 38° C., and the patient is making excellent progress towards recovery.

An Unusual Mishap in the Treatment of Cystic Goitre.

Dr. PUGIN THORNTON thus writes to the *Lancet*, March 28: During the treatment of a case of cystic goitre, an event occurred which has never happened to me before. It is an accident which may seriously hamper the successful issue of any case.

The goitre was of moderate size, situated principally on the right side of the neck, but some portion of the swelling stretched across to the other side. On tapping the cyst, the interior proved to be composed, as was previously expected, for the most part of trabecular structure; but there certainly was not more than one cyst, for the cannula, after it had been passed in, could be freely moved to the limits of the enlargement. Rather more than three weeks after

the cyst had been continuously discharging through the cannula, and had been evidently day by day becoming smaller, the diminution in its size ceased, although the discharge still passed freely. Now it was reported by the patient that some days the discharge almost entirely ceased, then suddenly commenced again, and was for some time very copious; that on those days on which the discharge lessened the swelling increased, and when the discharge reappeared the neck as quickly diminished to its former size. On particularly examining the patient's neck, I noticed that the cannula was on the opposite side of the trachea to that on which I had inserted it. Its passage across from the right to the left side had been so gradual that until I had a special reason for examining the patient's neck, I had not noticed this change of position. After further examination it was evident that the greater bulk of the goitre was on the right side of the windpipe, and that its cyst cavity emptied itself by a channel which must pass across the trachea into the much smaller cavity which was on the left side, and into which the cannula passed. That this was so was distinctly proved by pressing with the fingers on the swelling which was on the right side, for immediately there was an increased flow through the cannula and a decrease in the size of the swelling. I had injected the cyst with tincture of perchloride of iron (3ij ad ʒj). It is, I am sure from experience, immaterial whether the liquor or the tincture is used for the purpose of converting the cyst of a goitre into an abscess.

Muriate of Cocaine in External Hemorrhoids.

Dr. H. A. SMITH thus writes in the *Med. News*, May 23, 1885: The uses to which the muriate of cocaine has been put led me to try it as a local anæsthetic in the excision of external hemorrhoids.

The patient was a man about fifty years of age, of nervous temperament, with a timidity of pain amounting to fear, dyspeptic, and general health considerably below par. After having exhausted the materia medica of "remedies" and obtaining no relief, he finally consented to an operation. On examination I found the skin and mucous membrane around the anus a mass of corrugations with slight patches of ulceration between the folds; five piles protruded from the anal fissure, four of moderate size and one with a base about one and a half inches in its long diameter.

I considered this an excellent case for operation. After the usual preliminary preparation, I began by injecting about one-third of a grain of muriate of cocaine into each of three of the piles, and in about two minutes, with scissors, I excised them close to the base, the patient experiencing hardly more than slight discomfort. His timidity preventing any further operation that day, a week later I excised the remaining small pile, in the same manner, and then began on the large tumor by inserting the needle of a hypodermic syringe, containing about two-thirds of a grain of the salt, into the base of the tumor, injecting a few drops just under the skin, then traversing the pile in its entire length, depositing the solution in the track of the needle to a point just within the skin on the opposite side. I withdrew the needle, inserted a tenaculum, put the pile upon the stretch, and excised it without inflicting the slightest sensation of discomfort, except that caused by the entrance of the needle into the skin, much to the surprise and delight of the patient.

This operation suggests to me the probability of the usefulness of this drug in the painful clamp and cautery operation for the removal of internal piles.

After the operation there was an unusual amount of mental excitation, slightly flushed face, and contracted pupils. This may have been due to the reaction from his profound depression previous to the operation, as I have not heard of any such effects having been attributed to the drug in the amount used.

Acute Peritonitis Treated by Abdominal Section.

MR. FREDERICK TREVES thus writes in the *Med. Press*, May 6, 1885: A female, æt. 21, was admitted into the London Hospital on January 21st, 1885, suffering from chronic pelvic peritonitis following severe gonorrhœa. On February 25th, two months after the commencement of the chronic peritonitis, she suddenly developed the symptoms of acute diffused peritoneal inflammation. The sequel showed that a large chronic purulent collection, containing very offensive matter, had formed near the left pelvic brim. The walls of the abscess were formed partly by the pelvic peritoneum and partly by many coils of small intestine that had become matted together. The acute symptoms were due to the bursting of this abscess and the extravasation of its contents into the general peritoneal cavity. On February 26th the abdomen was opened under antiseptic precautions, the patient being at the time apparently in a very critical condition. The general surface of the peritoneum showed the ordinary appearances of acute peritonitis. The intestines, where in contact, were lightly glued together. A quantity of semi-opaque fluid mixed with flakes of lymph and pus escaped. The whole peritoneal cavity was washed out with many quarts of water and a drain introduced. The patient made a good recovery and was allowed in the garden on the fortieth day.

Remarks.—The extreme fatality of acute diffused peritonitis—especially of that form due to perforation—and the acknowledged futility of the modes of treatment that are at present employed, give some support to the proposal that acute peritoneal inflammations should be treated by the same methods that are successfully applied to other acute inflammations, viz., by free incision and drainage.

This common and general surgical procedure has been already applied for the relief of the inflammations of certain of the serous membranes. It was at first adopted in connection with the smaller serous cavities as those of the joints. It has been gradually and with increasing freedom applied in the treatment of inflammatory conditions involving the pleura. It has finally become a recognized means of treatment in certain forms of localized and chronic peritonitis, especially when purulent collections have formed. The author would urge the adoption of this principle in treatment in connection with acute and diffused forms of peritonitis.

A Case of Multiple Injuries.

To the Medico-Chirurgical Society of Edinburgh (April 1st), Mr. A. G. MILLER showed a case of multiple injuries, including fracture of the neck of the scapula, caused by a railway accident. The patient, a young man, was shunting some wagons on 22d November, 1884, when he was knocked down against the rails. On admission at the Infirmary, he was found to have:

1. A triangularly-shaped wound over the right eye, raising a flap which was but slightly attached by its outer angle.
2. A cut behind the angle of the mouth on the left side.
3. A cut behind the left mastoid process about $3\frac{1}{2}$ inches in length.
4. The nose dislocated.
5. Dislocation and bruise of the right shoulder.
6. Fracture of the femur at the junction of the middle and lower thirds.

The extravasation of blood accompanying the fracture of the femur was so great that extension without splints was applied. The bone united, however, in first-rate position, and the patient was already able to walk with but a slight limp. The dislocation of the shoulder was reduced by the house-surgeon, but there being still deformity, Mr. Chiene was asked to see the case in the absence of Mr. Miller. He considered that the dislocation had probably been complicated by fracture of the neck of the scapula. The patient suffered so much pain when any attempt was made to bandage his arm, that he was allowed to lie in bed with it unbandaged. On 30th January, an examination of the shoulder was made. There was flattening in the deltoid region. The acromion process appeared as the most prominent point in the shoulder. There was flattening in the subspinous region, as also a hollow between the head of the humerus and the acromion process. The head of the bone lay slightly forwards from its normal position. At times distinct crepitus could be felt. Later it was noted that when the arm was supported at the elbow there was an interval of an inch between the coracoid process and the clavicle, but when unsupported the difference between those points was $1\frac{1}{2}$ inches. From acromion to olecranon the right arm measured $15\frac{1}{2}$ inches, the left $14\frac{3}{4}$ inches. The head of the bone still lay downwards and forwards. It was nearly in the position of a sub-coracoid dislocation, but in proof that there was no such dislocation, he could touch his opposite shoulder quite easily, put his arm behind his back, and touch the back of his head. The crepitus which was present pointed to fracture. The question was what part of the scapula had given way—the glenoid alone, or the glenoid plus the coracoid process? If the latter, the coracoid ligament must also have given way. The movement of the coracoid showed that the ligaments must have given way or been much stretched. The coracoid moved with the head of the humerus. He considered that the fracture included the coracoid process, and that fibrous, not osseous union, had taken place.

Papillary Tumor of Anus.

Dr. J. MACKENZIE BOOTH thus writes in the *Brit. Med. Jour.*, May 2: Towards the end of February last, I was asked by a midwife to examine a woman, 26 years of age, who, a fortnight later, was expecting to be confined for the first time. She said she was suffering from the presence of a growth near the anus, which was, from its position and size, very annoying, preventing her from assuming the sitting posture, and interfering with the act of defæcation.

Since early girlhood, she had had some warts on the perinæum, but only at the sixth month of pregnancy (about twelve weeks previously) had those next the anus begun to grow and occasion discomfort. She had always been more or less troubled with constipation; but of late this had been more confirmed, the bowels

only being opened about once a week. Her mother, who was present, stated that, as a girl, she herself had been unusually subject to large masses of warts on the fingers and hands; and she was evidently convinced (a common belief among Scotch country-folk) that she had got them by milking a cow whose udder was affected in a similar manner. On separating the hips, a large purplish papillated mass, three inches in diameter, was seen to be in reality double, half rising from a pedunculated base on each side of the anus at the junction of the skin and mucous membrane; it was very friable in consistence, and readily bled when handled. The papillæ were elongated, with bulbous extremities, most of them reaching to the root of the tumor. On being ligatured, the tumors grew dusky throughout, and shrank somewhat. They were then easily removed with a pair of scissors, one coming away entire, the other in pieces. The hemorrhage was but slight, and was easily controlled by the application of pledgets of lint soaked in alum-water. The stumps of the tumor were touched daily with nitrate of silver, and the bowels kept open by laxatives for some time; and no tendency to further growth was manifested. Several small warts, like those ordinarily occurring on the fingers, varying from the size of a pin-head to that of a pea, were seen scattered over the perinæum, having evidently escaped the changes that had taken place in those on the verge of the anus. About three weeks later, she was safely delivered of a healthy child.

Sections of the tumors showed them to be composed of long capillary loops, like those of granulation-tissue, covered by thick layers of epidermic cells, similar to the papillæ of a wart, but enormously hypertrophied.

The increased blood-supply of the pelvic viscera incidental to advanced pregnancy, together with the sluggish venous return of the constipated bowel, had probably heightened the blood-pressure in the anal warts beyond the resisting power of the epithelial covering, and forced them out to form the tumors described above.

The facts that, after their removal, when the bowels were kept open by laxatives, there was no tendency to recurrence, and that the other warts on the perinæum escaped the hypertrophy, argue considerable influence on the part of the sluggish venous return in causing the overgrowth of those on the margin of the anus.

Brain Syphilis.

As of interest in connection with this interesting subject, we note that before the Medical Society of London (April 27th), Dr. ALTHAUS read a paper on this case, which was that of a clerk, aged 28, who had had a hard chancre about four years before, and, after having been apparently well for three years, was affected with ophthalmoplegia of the left eye, and six months afterwards with hemiplegia of the right side. When admitted into hospital, he showed almost complete paralysis of all the muscles supplied by the third, fourth, and sixth nerves, including the iris and the ciliary muscle. The intellect was impaired; and there was incomplete hemiplegia of the right side. Dr. Althaus argued that this group of symptoms could only be due to syphilis. With regard to the hemiplegia, he laid chief stress on the age of the patient, the fact that there had been no apoplexy when the stroke occurred, and that the paralysis had been incomplete from the beginning. Ordinary hemiplegia did not occur in the prime of life, except

where there was heart-disease, or diabetes, or tabes spinalis, or alcoholism; it was almost invariably ushered in by apoplexy, and was complete at least for the first few days or weeks; nor was it accompanied with palsies of the ocular muscles. A peculiar symptom in the present case was an enormous exaggeration of the tendon-reflexes in the palsied limbs, out of proportion to the degree of paralysis as well as of muscular rigidity which were present; and Dr. Althaus was inclined to consider this as a pathognomonic symptom by which syphilitic hemiplegia was distinguished from ordinary hemiplegia. With regard to the nature and seat of the pathological lesion, he argued that there was a gumma at the base of the brain, near the inner surface of the crus cerebri, close to the pons Varolii, which, by compression, had caused paralysis of the three cranial nerves mentioned, and, by further extension later on to the crus itself, which contains the crossed pyramidal strands, caused softening of these parts, and thereby hemiplegia. He concluded with some remarks about the prognosis of syphilitic lesions of the brain generally, stating that specific treatment was only successful in primary and truly specific lesions; but where a gumma had already caused wasting of the cranial nerves and softening of cerebral tissue—that is, secondary and non-specific lesions—no amount of mercury and iodide of potassium could effect a cure. From this he drew the conclusion that an energetic specific treatment should be adopted as soon as the slightest symptom of syphilitic brain-disease was observed, so as to disperse the primary specific lesions, and prevent the occurrence of incurable secondary lesions.

Dr. Ord referred to the difficulties of localization of the lesion causing the various symptoms in this case. With regard to the symptom specially commented on by Dr. Althaus—exaggeration of the deep reflexes—he should very much like to hear the value of this symptom discussed.

Dr. Drysdale said it was since 1858 that our knowledge of cerebral and spinal syphilis had been gained. He referred to cases of syphilitic lesions of the brain which had come under his notice.

Dr. K. Fowler was interested in the exaggeration of the deep reflexes; he had observed this symptom in neurasthenia from almost any cause. The occurrence of hemiplegia at the period of life mentioned in the paper was not, in his opinion, conclusive of syphilis.

Dr. Clark asked whether headache had been present in this case. He believed that muscular tone exercised an influence on the deep reflexes. He had seen a case of hemiplegia in the course of renal disease in a young girl.

Dr. Althaus said that, in aphasia due to syphilitic lesion, the prognosis was gloomy. The deep reflexes were not exaggerated in the side which was not paralyzed. Cephalalgia was not present in this case.

Oxide of Zinc in the Treatment of Wounds.

DR. EMIL STEIGER thus writes to the *Medical Record*, March 21, 1885: About eight months ago I received through the kindness of Professor Dr. A. Socin, surgeon in charge of the surgical department of the hospital in Basel, the annual report of said institution for 1883, and I can best benefit your readers by translating those parts of Professor Socin's preface which refer to the use of oxide of zinc in surgery.

After speaking of Listerism and its modifications, the powder dressings, and especially iodoform, with its great advantages and concomitant dangers, Dr. Socin continues:

"Frequently I talked over the subject of antiseptics with my friend, Dr. Piccard, professor of chemistry, who drew my attention to the oxide of zinc. After several theoretical experiments, and after a short time of practical application, this drug proved itself in no way inferior to iodoform and bismuth as an antiseptic. At the same time oxide of zinc possesses merits, which should be fully appreciated, in the fact that it is absolutely harmless, positively odorless, and very cheap.

"Already at the convention of the Aertzlicher Centralverein in Basel (May, 1883), I was enabled to report some surprisingly beautiful results, which we had obtained from the use of oxide of zinc. Soon thereafter I read (*Deutsche medizinische Wochenschrift*, No. 25, June, 1883) that Professor Petersen, of Kiel, had very successfully used the same remedy. But as the manner in which we make use of the oxide of zinc differs in various points from that of Professor Petersen, it will not come amiss for me to describe our method. The prominent and guiding idea is that no other antiseptic shall come in direct contact with the wound. Carbolic acid solutions, therefore, serve only for disinfection of the operating-room, the washing of hands and instruments, and the general field of operation. Sponges, after being used, are thoroughly cleansed in water, then for four weeks (the time of their being used again) soaked in a five per cent. solution of carbolic acid, and directly before using them again, well rinsed in clear water and immersed in 'zincmilk,' of which more anon.

"We use the oxide of zinc in four different forms:

"1. A mixture of one part of ZnO to one hundred parts of distilled water (thin zincmilk) we use for irrigating all fresh wounds, for moistening the sponges which come into contact with the wound surface, and for syringing out opened cavities of the tissues and joints, etc.

"2. With a mixture of ten parts of zinc to one hundred parts of aq. dest. (thick zincmilk) we irrigate all wounds intended to be kept open, before their being dressed, long enough to secure a white covering or lining of the whole surface.

"3. As dry powder the oxide of zinc is applied with a powder box to ulcers, burns, abrasions of the skin, etc., and possesses in such cases great merits.

"4. To cover sutured wounds we use the so-called zinc-paste, consisting of fifty parts of zinc-oxide, fifty parts of water, and five-sixths part of chloride of zinc. This paste exposed to the air dries quickly up to form a hard crust, as both substances are chemically united into an oxychlorure of zinc, such as often used in dentistry. Supported by a thin layer of cotton, this paste forms a hermetically closing and sufficiently adhesive cover of the wound. . . .

"The cicatrices formed under this zinc cover are generally more beautiful and finer than those obtained from any other kind of wound-dressing. . . .

"Quite troublesome is the so-to-say permanently necessary shaking of the zinc mixture as used for irrigating wounds, wherefore for such purpose we have lately substituted the solutions of corrosive sublimate, although these, when abundantly applied, cause sometimes stomatitis. For the treatment of wounds already

septic, the oxide of zinc is no more sufficient than any other antiseptics which are insoluble in water.

"My absolute confidence in the scientific reliability of Prof. Socin's statements and teachings, and the grateful remembrance of the professional advantages gained through the doctor's kind instructions in the 'auld lang syne,' induced me to use oxide of zinc in all suitable cases that came into my hands since I have read the report."

The results justified all my expectations.

Knife-Wound of the Abdomen, with Unusual Symptoms.

Dr. W. T. SEXSMITH thus writes in the *Am. Practitioner*, February, 1885: C. A., sixteen years, received on August 4th a knife-wound which extended from the costal cartilage, between the seventh and eighth ribs on the left side, obliquely downward six and a half or seven inches to the opposite side in front. On examining the wound a few moments after it was received, I found the pylorus and a portion of each of the omentum and right colon protruding through the cut. These I replaced and closed the wound by seven interrupted sutures. A thick compress wet with cold water and a broad bandage completed the dressing. I administered one-half grain of morphia, after which the patient was removed to a house about one mile distant. Three hours later his pulse, which was of good volume when I first saw him, had grown frequent and feeble; the surface was pale and covered with a cold perspiration; he had nausea, and was in great pain. The morphia was repeated. The next morning I found his temperature 104°, pulse 140, respiration rapid and sighing; pain about the wound, nausea, and vomiting. Directed lime-water in small quantities, and continued morphia. During the three following days there was no material change in either the pulse or temperature. On the third day the dressing was removed, and the water with which the compresses were wet was carbolyzed. The patient complained of pain, both of the wound and of the bowels; considerable tympanites, some nausea; very restless. Directed ten drops of turpentine every three hours, hot flannels to the abdomen, and added milk to the lime-water. Anæsthesia of the right side and arm; difficulty in swallowing liquids even. Pulse 140, temperature 104°. Symptoms of bronchitis developed during the night: frequent and tight cough; upon examination a well-defined field of dullness extending from the edge of the wound on the right side as high up as the fifth rib. During a paroxysm of cough two of the sutures on the left upper part of the wound parted. I applied rubber adhesive strips, leaving the wound over the cartilage open for drainage.

9th. General condition same.

10th, 11th, and 12th. Tympanites less. Expectoration fully established.

On the 12th wound discharged freely. More pain in the chest, and more cough.

13th. Pulse 124, temperature 102°; expectorating freely.

14th. Pulse 120, temperature 101°; bowels moved during the night. From this date to the 17th the symptoms improved.

Morning, 23d. Pulse and temperature normal; removed adhesive strips; sutures came away all but one; still complains of great fullness after food or drink. Wound closed its entire length. Still complains of numbness of right side and arm.

I have reported this case that I might draw attention to the effect upon the nervous system of the irritation at the seat of the injury. On the evening of the third day bronchitis was developed, and along with it inability to swallow even liquids, both of which conditions may be explained by the extension of the irritation to such branches of the pneumogastric nerve as are distributed to the lung and œsophagus, while the nausea and vomiting may be explained by like irritation affecting the gastric branches. The anæsthesia of the right side of the chest and arm can be accounted for in like manner, viz., reflex irritation of branches of the brachial plexus.

There was another phenomenon in this case of some interest. The pulse-rate on the wounded side was five pulsations less per minute than on the left, although the thermometer indicated two degrees higher temperature on the affected side than that of the left side. This is, I believe, only another link in the chain of evidence that the sympathetic and pneumogastric nerves exert a more extended influence over the arterial circulation than is generally supposed.

A Curious Case of Calculus Formed in the Sub-lingual Gland, and Chalky Deposit in Wharton's Duct.

Dr. EDWARD M. WISE thus writes in the *Maryland Med. Jour.*, April 11, 1885: On February 4, 1885, I was consulted by Wm. Holland (mulatto), aged 21 years, whose occupation was that of waiter. His general health seemed somewhat impaired, and his case presented the following symptoms:

Sub-maxillary gland enlarged and slightly painful. Swelling along the entire course of Wharton's duct, as well as over the sub-lingual gland, which he informed me had been slowly increasing in size for one or two years. He said the enlargement of Wharton's duct and the sub-maxillary gland above mentioned, was more recent. The last-named structure (sub-lingual gland) was not only enlarged, but indurated and very painful, while from a fistulous opening into it, there constantly oozed small quantities of pus and blood. The introduction of a probe through this orifice revealed the following condition, namely, that of the gland being impacted with a chalky deposit, which I removed on February 6th, simply by cutting down on the calculus and drawing it out entire by means of a pair of small dressing forceps. The body thus taken away was about the size of a large pea, quite friable, and having the general appearance of a calculus usually found in the bladder.

Immediately upon its withdrawal, there followed a considerable quantity of pent-up saliva of about the consistency of albumen. Believing this mass of saliva, which had hitherto been unable to find an exit, fully accounted for the swelling along the course of Wharton's duct, and that the same would now promptly subside, I gave the patient an antiseptic mouth-wash, and directed him to call again in three or four days.

Two days, however, after the removal of the calculus, he sent for me, complaining of pain in the sub-maxillary gland, and along the course of Wharton's duct, for the temporary relief of which I administered $\frac{1}{2}$ grain of sulphate of morphia hypodermically, which had the desired effect, but on the following day the pain had so much increased that I asked Dr. J. Edwin Michael to see the case with me; and after a careful investigation, we decided to lay open Whar-

ton's duct, which was found filled with a chalky deposit similar to that which I had previously removed from the sub-lingual gland; and this we picked out in pieces by means of a pair of ordinary forceps. We then made a further exploration, with a small needle, from the outside, into the sub-maxillary gland, with a view to ascertaining whether that structure had undergone chalky degeneration, but no indication of the kind was discovered, and the gland soon began to decrease in size.

The patient began to improve, and has since entirely recovered.

Whilst in the above account there is nothing doubtful as far as the patient's condition is concerned, the precise causes which led to it are by no means so clear, but form simply a basis for conjecture.

The following queries may suggest some such answers to throw some light upon a case which, so far as its pathological explanation is concerned, is extremely obscure.

1. Did the opening of Wharton's duct first become obstructed through an inflammatory condition produced by some local or external cause? Under these circumstances did there follow a deposit of the salts contained in the saliva, viz: tribasic phosphate of soda, chlorides of sodium and potassium, sulphate of soda, and phosphates of lime, magnesia, and iron, combining to form this chalky calculus?

2. Did it happen that the patient managed to force with the tip of his tongue in his endeavor to remove it, a minute particle of crab-shell or other foreign substance into Wharton's duct through its opening near the *frænum linguæ*?

And supposing this to have been the case, the said fragment may have acted as a nucleus around which the salts of the saliva could have encrusted themselves, gradually increasing in size so as to form a plug which in the course of time effectually closed up the opening of the duct, and produced the results narrated in the case.

Surgery of the Spinal Cord.

Dr. J. CAMPBELL thus writes in the *Canada Lancet*, May, 1885: The very interesting and important subject of what now generally goes by the name of "Railway Spine," has, during the last year, been attracting renewed interest. This has been owing in a great measure to the publication of Page's work "On the Injuries of the Spine and Spinal Cord." Mr. Page has been for a number of years surgeon to one of the greatest railway corporations in England, and, therefore, had a very extended experience of all possible railway injuries, and particularly of cases of so-called "Railway Spine." He contends that cases of what are commonly called "concussion of the spine," do not exist, except in the imagination of the surgeon making the diagnosis. By concussion, he means the cord receiving an injury of such a nature as to give rise to pronounced symptoms, without, at the same time, the vertebræ, ligaments, or membranes receiving any hurt.

It is well known that Mr. Erichsen has been a strenuous advocate of the theory that the great majority of cases of railway injuries having for their symptoms spinal symptoms, are due to concussion of the spinal cord. The first one hundred pages of Mr. Page's book are taken up with combating this view of Erich-

sen, and it appears to me that Mr. Page's attempt has been successful. He, at least, conclusively shows that the vast majority of cases of concussion of the spine are nothing more nor less than cases where the lumbar muscles or ligaments of the spine have been sprained or ruptured. Erichsen contends that many cases of "concussion of the spine" received in railway accidents never recover, while Page, on the other hand, maintains that these so-called cases of spinal concussion always do recover. While representing the reaction, Mr. Page's recent work certainly favors an undue belief in the certainty of recovery in cases of this sort.

Erb presents the matter more fairly than either of these writers. Accidents which occur in railway collisions, as other accidents, may lead to a long train of nervous symptoms, and when death has resulted, a post mortem examination may show little apparent cause for the fatal result. In the greater number of these cases the pathology is a riddle, which, for its satisfactory solution, will need a great deal of experiment and careful and extensive post mortem investigation. The great trouble in coming to an opinion as to the nature and cause of a train of nervous symptoms following a railway injury is not whether we have to do with a functional or organic change, but whether we have to do with an actual or feigned train of symptoms. Usually the patient's symptoms are of such a nature that the physician can come to a conclusion without much trouble, but where he has to do with an intelligent and unscrupulous man who expects a large sum from a railway company, the case is one of extreme difficulty. In many of these cases it is quite impossible to come to a certain diagnosis.

In the words of a recent writer, the "needed clinical work, it seems to us, in the study of 'railway spine' is the determination of clearly defined types of the disease, and the investigations of the variations from this type, and the certain relation of objective symptoms to the disease." That serious and even fatal effects may arise from changes in the cord where it has not received any direct injury, has been abundantly proved. In the current number of one of our periodicals there is a very instructive case reported, by Dr. Edmunds, of a soldier who was struck in the back with a bullet. He fell immediately, and had to be carried out of action. The bullet entered the back two or three inches from the spine, and the surgeon who first attended him considered that the spine was severely injured, because the patient had lost complete control over both lower extremities. Patient had paralysis of the bladder and rectum also. There was cystitis and a bedsore over the sacrum before death, which occurred five months after the injury. At the autopsy there was no fracture or indication of fracture, or dislocation of the vertebræ to be found. The cord was seen to be much atrophied and softened about the level of the wound. On hardening the cord in Müller's fluid, it was seen that there was universal myelitis and softening about two inches opposite the wound, this gradually passing below into sclerosis of the lateral and anterior pyramidal tracts, and above into sclerosis of the posterior columns. There was no indication of hemorrhage, either external or into the substance of the cord. Its surface was uninjured. This was undoubtedly a case of pure "spinal concussion." The immediate paraplegia following the injury could not have been due to any other cause. The case is then one of very great importance, as it proves most conclusively that we can have

from a severe shock sufficient changes brought about in the spinal cord to cause death, and that these changes were in the first place nothing more or less than "concussion of the spine."

Very recently the opinion appears to be gaining ground that we may have *tabes dorsalis* arise from peripheral causes. That, in fact, an ulcer in the foot may be the *fons et origo mali* of this formidable disease. The origin of the disease in such cases is explained by first a peripheral neuritis gradually extending along the course of the nerves until it reaches the posterior roots, and there a similar process gives rise to a subsequent sclerosis of the posterior columns.

Two Obscure Cases of Tertiary Syphilis.

In the *Brit. Med. Jour.*, April 18th, Mr. BERKELEY HILL reports these two interesting cases:

W. V., a man, aged 41, was admitted on December 8, 1884. He stated that he had been in the hospital five years earlier, under the care of Mr. Berkeley Hill; and, from the notes of the case taken at that time, it appeared that he had suffered from disease of the right tibia from his tenth to his fifteenth year, and that pieces of bone had been discharged. He then recovered for a time, but, on several subsequent occasions, his leg broke out, though whether this was owing to bone-disease or not is not clear. When in the hospital in 1879, there were signs of an abscess at the upper end of the right tibia; the anterior surface of the tibia was trephined a little below the tubercle, and pus evacuated from a cavity one inch in diameter. Perfect recovery took place in six weeks, and the patient remained well till three weeks before his last admission, in December, 1884. The whole tibia was then enlarged, and the middle third of the bone was especially large; the skin over the upper third was cicatrized and adherent to the bone, and that over the middle third was riddled with large sinuses, one of which had a marked serpiginous border; the tibia was felt bare at the bottom of the sinuses, and the patient suffered most severe pain in it, particularly at night; the right femoral glands were much enlarged and tender. Mr. Hill concluded that there was a collection of pus in the medullary cavity, as well as suppuration between the shaft of the bone and the soft parts. On December 10th, he trephined the anterior surface of the lower part of the middle third of the tibia, and evacuated a quantity of oily fluid. The medullary cavity of the shaft was charged with this oily pus, and a probe could be passed upwards and downwards for some distance. To insure drainage, a small opening was drilled into the bone a little lower down, and from this the abscess-cavity was syringed out; some granulation-tissue was also scooped out. The wound was dusted with iodoform, and packed with boracic lint. This operation gave much relief; the temperature fell to normal from nearly 102° Fahr.; and the patient no longer complained of the severe pain from which he had previously suffered. The condition of the tibia was not so satisfactory, however; and, on December 18th, it was noted that about four inches of it were necrosed, and ulceration was spreading with a well-marked sinuous border in the soft tissues over it; the temperature frequently rose above 100° Fahr. On January 10th, the necrosed bone was found loose, but the general condition of the patient had become so much worse that, on the earnest solicitation of the patient, the question of amputation was dis-

cussed. On January 14th, Mr. Hill made an examination under an anæsthetic, and finding that the sequestrum was only held by a small bridge of bone at the lower end, divided this and removed the sequestrum. The cavity was then freely scraped, and it was found that there was still a thin layer of healthy bone at the posterior part of the tibia, though it had broken away from the upper third of the shaft, and the lower part of the limb was connected with the upper only by the fibula and soft parts. The cavity was mopped out with a solution of chloride of zinc, and a carbolic gauze dressing was applied, but the nocturnal pain remained considerable. From the evidently subperiosteal origin of the osteitis and necrosis, Mr. Hill formed the opinion that, notwithstanding the absence of syphilitic history, the cause of the disease was syphilis, and ordered iodide of ammonium, in ten-grain doses, every four hours. The relief from pain was rapid and marked; the local necroses stopped, and the general condition became good; sleep, appetite, and strength returned. On January 22nd, the limb was put up immovably in a splint formed of telegraph-wire and plaster-of-Paris; the intervals between the limb and the splint, at the interruptions, were packed with absorbent wool steeped with beeswax, so as to prevent the discharges from soaking beneath the apparatus. Beyond some slight temporary mental aberration, caused by the severity of the bodily suffering, the patient now made continuous progress; healthy granulations sprang up all over the wound, and rapidly filled up the large cavity. The frequent doses of iodide of ammonium were lessened, and soon changed for mercury and iodide of potassium. The splint, with carbolic gauze dressings, was continued till March 13th, when, the ends of the tibia having become solidly united by new bone, an ordinary plaster-of-Paris case, with a window, was substituted for it. The patient was discharged on March 20th, in a fair way towards complete recovery. He was then taking fifteen grains of iodide of potassium, and one-eighth of a grain of bichloride of mercury, three times a day, with instructions to continue the anti-syphilitic medicine for several months at least.

Case II. Ulceration of Large Gumma of Scrotum after an Injury: Margins Revived and Stitched together: Cure.—J. H., an old soldier, aged 45, was admitted on December 30, 1884, suffering from an enlargement of the right side of the scrotum, forming a tumor about the size of an orange. On the front of the swelling, there was an ulcer a little larger than a five-shilling piece, which had rapidly increased to that size from a mere puncture; the ulcer was covered by a thin yellowish slough. The testicle was enlarged, irregularly nodular, and appeared to be surrounded in parts by fluid; there were some ulcers on the right leg, which suggested possibly a syphilitic cause, but there was no distinct history of the disease. The history of the case pointed to injury as the primary cause of the ulceration of the scrotum, for the patient, a one-legged man, stated that, about a month ago, his crutch had broken under him, and struck a severe blow on his scrotum. Great pain and swelling of the scrotum followed two or three days later. Three weeks afterwards, a small painful pimple formed on his scrotum, and, on its giving way, the patient averred that half a gallon of blood and thin water escaped. Mr. Hill concluded that the ulceration was syphilitic, and ordered iodide of potassium; under that treatment, the ulcers improved. Ten days after admission, the surface of the ulcer was scraped, and its edges

were pared, freed from the deeper parts, and sutured together, so as to cover over the sore. Union took place rapidly without suppuration, and a linear scar replaced the large circular ulcer. The patient had also a series of strictures of his urethra, the narrowest of which was No. 5 French (No. 1 English), which were divided by internal urethrotomy. The patient was discharged about three weeks after these operations, with still some enlargement of the testicle; the ulcers on the leg were healed; micturition was free, and the urethra was of the calibre of No. 24 French (14 English).

These two cases illustrate the obscurity that sometimes conceals the syphilitic origin of severe diseases of various kinds. The first case is of much interest, on account of the very extensive bone-disease which was present, and the great rapidity with which the patient emerged from a really critical condition on the administration of anti-syphilitic remedies. In the second case, the syphilitic nature of the disease was liable to be overlooked on account of the history, which pointed strongly to injury as the cause; the presence of ulcers on the leg, and the description of the progress of the ulceration of the scrotum, with its limited area of destruction, though so severe in its action, and the nodular condition of the testis indistinctly felt through its swollen coverings, led to the diagnosis of syphilis, though no corroborative history could be obtained.

Nutritive Dressing of Large Granulating Surfaces.

Dr. WILLIAM BARTON HOPKINS thus writes in the *Therapeutic Gazette*, May 15, 1885:

Martin A., æt. 26, a man of vigorous health and temperate habits, a brakeman by occupation, was brought to the Episcopal Hospital November 23, 1884. While coupling freight-cars his right elbow had been caught between the buffers, which nipped the limb and squeezed the forearm and elbow through a long tear in the integument, as a grape is forced by pressure through a rent in its skin. There was no bone or joint involved in the injury, and the deep fascia had also, to all appearances, escaped, except at one or two points; one, notably, just above the elbow, where a deep wound in the muscles extended down close to the brachial artery. Although no tissue had been lost, the greater part of the integument of the forearm and elbow had been stripped off, and lay curled up upon the anterior aspect of the limb. After being carefully washed with carbolated water, the wound, which extended from the lower part of the forearm to a point about four inches above the elbow, was loosely approximated, and dressed with carbolized gauze, dusted with iodoform. Two days later, owing to the high grade of inflammation which followed, this dressing was discontinued, and irrigation with carbolated water (one part to forty) used instead, and aconite was given internally. General sloughing of the entire flap of integument, and also of the muscles of the arm and forearm, followed. The elbow-joint narrowly escaped involvement, its whole contour becoming plainly visible, covered only by capsular ligament, which latter, however, fortunately remained intact. Owing to the perfect drainage which could be obtained, and free irrigation, which was persistently continued for two weeks, the great mass of sloughing, gangrenous tissue remained entirely free from odor, and, notwithstanding the patient grew exceedingly weak and became rapidly emaciated, his temperature seldom exceeded

100°, and he showed no symptoms of sepsis. At the end of three weeks the sloughs had mostly come away, and healthy granulations began to fill up the depressions and even off the surface of the large ulcer remaining. Five weeks after the accident improvement had come to a standstill. The excessive drain from a suppurating surface, which at this time extended over an area of one hundred and five square inches, began to tax too severely his already enfeebled nutritive powers. He had complete anorexia, became nervous and irritable, had night-sweats, and his temperature became elevated, reaching 102° and 102½°. He had beginning hectic. Cicatrization had been going on for some time, but was feeble and tardy; while the discharge from the ulcer was free and comparatively healthy.

Assuming that a granulating surface, if sufficiently large, might be made use of with benefit as a medium for the administration of nutritive material, and that certain such materials could be applied to it which would not interfere with the processes of cicatrization, it was determined to employ for this purpose an emulsion of cod-liver oil, to which was added five grains each of pepsin and pancreatin to the ounce. The ulcer was accordingly dressed once a day with lint soaked in this preparation. A very decided change was soon observed to take place in both the general and local conditions, which I think could be fairly attributed to the change in the dressing, as care was taken not to alter his general treatment while the experiment was being made, and as the dressings which had been previously used were negative so far as their constitutional effects were concerned. His appetite began rapidly to improve. Food was taken in much larger quantities, was eaten with relish, and was properly digested.

The effects upon the ulcer were clearly secondary to those upon the general condition, as no changes were noticed in it until after marked improvement in the latter had occurred. Then it began to cicatrize with rather remarkable rapidity, in fourteen days having become reduced in area to seventy-seven square inches. The patient's face had lost its sunken, drawn expression, and he was now able for the first time to be out of bed. A number of skin-grafts were applied at this time, and the dressing therefore discontinued, lest it should interfere with the process. Ten days later, several of the grafts having been found to have taken, the nutritive dressing was reapplied, and continued for two weeks longer. The indications for its use, however, seemed to have ceased, and no particular effect was noticed, except that healing progressed favorably with it, and that it was otherwise unobjectionable. The ulcer was afterwards strapped until the patient was transferred to the out-department, March 17, 1885, about four months after the accident. Three small ulcers remained, the dimensions of which were, respectively, about two by two and a half inches, one by one and a half, and one by one. Owing to loss of structure and cicatricial contraction, there was little movement at the elbow, but the hand was quite useful.

Further tests of this plan of treatment are necessary in order to properly estimate what value it may have as a therapeutic means in combatting suppurative exhaustion after extensive loss of cutaneous tissue from other causes, as burns and scalds, as well as from lacerations. Should such tests corroborate the evidence adduced in this case, the method will probably be found most frequently applicable after burns, as they so often destroy life solely from inability of the

digestive system to supply sufficient nutriment to compensate for the inordinate waste incident to prolonged excessive suppuration.

Peat as a Surgical Dressing.

Dr. W. G. TREMAINE thus writes in the *N. Y. Med. Jour.*, March 21, 1885: The history of the treatment of wounds is, for the most part, a sad record of human folly and of the most absurd fantasies of the human mind. All kinds of materials have from time to time been accredited with healing virtue, and have been used empirically by those practicing the healing art, with a blind faith in the efficacy of the application itself. Amid these absurdities, it is refreshing to find that there were those who thought for themselves and observed carefully the processes of nature. For instance, said Galen: "The first thing the surgeon has to do is to see to it that he may not inflict injury, and not interfere with Nature in her attempts to heal."

Wortz, a master-surgeon of the sixteenth century, said: "Many a wound, if only kept clean and dressed correctly, will heal better than if you apply all your pastes and herbs." With the more accurate knowledge of pathology in modern times, the whole philosophy of the treatment of wounds may be summed up in the term, physiological rest; or, in other words, the prevention of all disturbing influences, either from within or from without, that may interfere with or retard the reparative process. All intelligent surgeons now recognize the value of non-interference with a wound, except for the purpose of removing one or another of these disturbing influences. It is, therefore, clearly the duty of the surgeon to employ that form of dressing which will best carry out these principles. The essentials, consequently, of a good dressing are: First, sufficient absorbing power to rapidly remove excessive wound-exudates; second, to prevent decomposition of these exudates; and third, to accomplish the preceding requirements with as little mechanical disturbance of the wound as possible. There are several substances now in use that carry out these indications in a more or less satisfactory manner.

About four years ago a laborer, working in the neighborhood of Kiel, hurt himself badly in the hand and forearm. In the absence of any dressing material, the injured limb was surrounded with black peat obtained from a peat-moor where the man had been at work. The pain soon ceased. The dressing was not disturbed for eight or ten days, when the patient presented himself at the surgical clinic in Kiel. The condition of the man is thus described by Dr. Neuber: "A thick layer of dried black peat covered the forearm. After the arm had been cleaned in several baths, and the parts sponged off, we saw, to our great astonishment, a wound partly filled with beautiful granulations; partly there was primary union. The surroundings of the wound were perfectly without reaction. Until now no suppuration had started. Later the patient had the full functions of his hand."

Suggested by this incident, peat was extensively used as a surgical dressing in the clinic at Kiel by Dr. Neuber, a full account of which is given by him in "*Anleitung zur Technik der antiseptischen Wundbehandlung und des Dauerverbandes.*"

According to a chemical analysis, peat contains: moisture, 20.98; ash, 5.07;

organic matter, 73.95; nitrogen, 0.46. Its absorbing power is remarkable. It takes up nine times its own weight of water. It has no irritating quality when applied to wounded surfaces. Some extraordinary stories are told of its preservative qualities.

In Germany, Moorish corpses have been discovered imbedded in the black peat, which have been preserved for centuries. A resident pupil in the hospital informs me he has seen, in Ireland, bodies of animals dug out of peat-bogs in a perfect state of preservation, where they must have lain for years. He also says he has seen butter, perfectly fresh and palatable, packed in a crude form of tub, supposed to have been placed in the peat by the Danes.

About a year ago I began the use of peat at the Buffalo Hospital of the Sisters of Charity, a hospital of one hundred and eighty beds, and also at the Emergency Hospital. From the large number of surgical cases received and treated during the year, nearly two hundred of them being cases of accident (railway and other), ample opportunity has been afforded to test the value of this dressing. The peat used was obtained in packages containing one hundred pounds, imported from Germany by M. Lienau & Co., No. 2 Jones Lane, New York. The manner of using it is as follows: Bags of different sizes, made of hygroscopic gauze, or the fabric known as cheese-cloth rendered hygroscopic by boiling in an alkaline solution, are filled with the peat, and, after being moistened with a solution of mercuric bichloride, 1 to 1,000 parts, are applied directly to the wound, after it has been thoroughly cleansed and irrigated with the mercuric-bichloride solution. This dressing is not disturbed until completely saturated with the discharges, unless pain or rise of temperature should indicate the necessity of removing it. Frequently one dressing will suffice. Possibly the best method of illustrating our results will be to relate a few cases taken from the records of the hospitals.

Case I. E. G., aged twenty-eight years, native of Germany. Admitted March 15, 1884. While coupling cars this morning, his right elbow was caught between the buffers, producing a compound comminuted fracture of the elbow joint, with a lacerated wound on the anterior aspect of the joint, laying bare the brachial artery for three inches. The elbow joint was resected, the internal and part of the external condyle being removed, with coronoid and part of the olecranon. A drainage-tube was inserted. The wound was thoroughly irrigated with mercuric-bichloride solution, 1 to 1,000. The wound was united with catgut suture and wrapped in gauze-bags containing sublimate peat. In five days the dressing was removed. There was no suppuration. The wound was free from inflammation and fresh peat-bags were applied. The dressings were not removed for ten days, when the wound was found completely healed. Three weeks after the operation there were fair flexion and extension.

Case II. George L., aged twenty-five, native of England. Admitted June 14th, with compound fracture of the tibia and fibula in the upper third. The wound was thoroughly irrigated with mercuric-bichloride solution. The limb was enveloped in sublimated peat-bags and placed in a fracture-box. No surgical fever and no suppuration followed. Recovery was complete, with a useful limb in six weeks.

Many other cases might be cited from our records, but these will sufficiently illustrate the method of using the peat and the results obtained.

Finally, we have found it a valuable surgical dressing, particularly in lacerated wounds and compound fractures. In comparison with peat, we are now using wood-flour, charged with mercuric bichloride and naphthalin, with some advantages in favor of the latter; viz., greater absorbent power, the wood-flour taking up twelve times its weight of water, and, in addition, the stain of the discharges being more readily seen than in the darker peat.

A Constant Antiseptic Vapor Dressing.

Dr. J. C. VOIGT thus writes in the *Lancet*, May 2, 1885; Since Schultz first proposed the employment of the oil of eucalyptus in surgery numerous cases showing its value as an antiseptic have been published (e. g. by Siegen, in *Deutsche Medicinische Wochenschrift*, 1880, No. 30, and 1881, No. 14; and by Busch, in *Berliner Klinische Wochenschrift*, 1880, No. 39). For an antiseptic spray, the oil can be utilized by either filling the spray bottle with the pure undiluted oil or by employing a solution in rectified spirit (1 in 8). The first method, however, produces a spray which is so powerful as to make it almost intolerable for some nurses. Inhalation of the strongly irritating eucalyptus steam, when it is at all prolonged, is not very pleasant. It often occurs that one desires the constant action of a volatile antiseptic on a wound which is already, to a greater or less extent, septic. Syringing in such a case would do harm by breaking up union which has already taken place in part, and even were it possible to syringe out a wound with corrosive sublimate or some other antiseptic solution, without at the same time causing any disturbance to the healing process, the solution would not perhaps penetrate to all corners and sinuosities where an antiseptic vapor, constantly applied to the wound, would find its way. In cases of this nature, which I may best illustrate by the subjoined notes of one or two recently under treatment in the Bury Dispensary Hospital, the great value of antiseptic agents which volatilize at the temperature of the body is seen. A dressing which throws a constant antiseptic steam into the wound can be prepared. Plain ordinary gauze, unimpregnated with any other antiseptic material, can be kept (till required for use) soaking in pure eucalyptus oil. Before being put on the wound which is to be dressed, strips of this eucalyptus gauze are squeezed as dry as possible and then steeped in eucalyptus and olive oil (1 in 5). Thus prepared, the strips of gauze are put on the wound, and immediately over them are applied some folds of ordinary absorbent cotton-wool, which have been freshly wrung out of the pure eucalyptus oil. The thickness of this dressing can be made to vary with the amount of discharge expected from the wound, and if thought necessary, some dry antiseptic absorbent dressing material can be put outside this moist eucalyptus dressing. The wool, impregnated with eucalyptus, however, very soon dries at the temperature of the body, and its power as an absorbing dressing is higher than one would at first suppose. The deep dressing may be as above described, or may consist of gauze strips steeped in a solution of eucalyptus oil in rectified spirit (1 in 8). In twenty cases treated in Prof. Busch's wards (Bonn), the pure undiluted oil was applied directly on wounded surfaces without causing the least pain, even in children.

Case 1. P. H——, aged four, was admitted into hospital on November 12th, with injury to the left hand. There was a large open wound parallel to the fifth

metacarpal bone, a wound also on the dorsum of the hand between the thumb and index finger, and a compound fracture of two metacarpal bones. After the wounds had been stitched and syringed out with corrosive sublimate, a sublimated dressing was applied. In the evening of November 15th this dressing was saturated with discharge, and the wound, when examined, was found not to be asptic. Frequently repeated changes of dressing and syringing with corrosive sublimate failed to make it sweet. On January 3d there was still a good deal of discharge, which smelt very offensively. The eucalyptus dressing, as above described, was applied and left *in situ* for a fortnight. On January 17th the eucalyptus dressing was removed. The odor of the eucalyptus was still distinctly perceptible in the absorbent cotton, which was of a yellow color and quite dry. The wound was found to be nearly healed up, and there was no bad smell.

Case 2. E. O——, male, aged forty-two, was admitted on December 15th, having received an injury to his foot by a heavy weight falling on the dorsum. The first metatarsal bone was fractured (compound), and the metatarso-phalangeal joint was open. The open joint and the entire wound were well syringed out with corrosive sublimate solution. The edges of the wound were brought together by antiseptic stitches, and a dressing of absorbent cotton, steeped in pure eucalyptus oil, was applied. All this was done under a eucalyptus spray obtained from pure eucalyptus oil in the spray bottle. The dressing was left on for twenty-two days. During all this period the odor of the eucalyptus was distinctly perceptible at the patient's bedside. There was no elevation of temperature above the normal at any time. On the twenty-third day the dressing was removed. A small amount of blood and discharge was contained in the deeper layers of the wool, but there was no wounded surface, not even a single granulation left. A firm, healthy, pinkish-colored cicatrix, outside which the ends of the catgut sutures were lying loose, existed where the wound had been. The joint was somewhat stiff. The patient was soon afterwards discharged cured.

Cases 3 and 4 were severe scalds. The one case was that of an adult male who had both feet extensively injured by a kettle of boiling water having been upset on them. The other was that of a girl eight years old. This patient had met with a similar accident, which had caused serious scalds of both arms and of the face. Both cases were septic when admitted, and in both a single application of the eucalyptus dressing at once corrected the disgusting fetor. The dressings were left on for five days. At the end of that period healthy granulating surfaces were exposed when the dressing was removed, and the wool still smelt strongly of eucalyptus. The cases then progressed fast towards recovery, and the remarkable power possessed by a eucalyptus dressing of promoting the rapid formation of healthy granulations, and at the same time causing processes of firm cicatricial tissue to spread inwards quickly from the margin of the wounded surface, was beautifully demonstrated in the course of both of them.

Case 5. On January 9th I performed excision of the hip for disease of that joint in a boy aged four. Sero-sublimate gauze dressing was applied, but had to be removed on January 16th, for the discharge had soaked through the dressing, and two long sinuses, which communicated with the wound, were found discharging a septic pus, although at the time of the operation they had been scraped and syringed out with corrosive sublimate solution (1 in 1000) and then

plugged with sero-sublimate gauze. The patient's temperature also had risen on the night of the 15th. On January 16th, with eucalyptus spray playing on the wound, after the strips of gauze had been removed and the sinuses well syringed out with corrosive sublimate solution, the eucalyptus dressing as above described was applied. Next day the patient's temperature was normal, and for more than a week afterwards the odor of the eucalyptus was strongly marked all round the oed, the patient's temperature remaining normal.

The Surgical Aspects of Renal Tuberculosis.

Mr. REGINALD HARRISON thus writes in the *Lancet*, April 18: Tubercular disease of the urinary organs has recently received considerable attention, and the literature of the subject has been importantly added to by the French school of pathologists. In reviewing urinary tuberculosis, it is impossible entirely to dissociate any one part of the system as belonging to the physician, it being now well recognized that certain morbid conditions feign well-marked surgical complaints, and give rise to consequences which are only amenable to surgical interference. The observations I am about to make have been led up to by cases presenting symptoms indicating the necessity to explore for calculi or to practice cystotomy for their relief.

Tubercle of the kidney in its earliest form I have frequently found to be a cause of incontinence and urinary irritability in children; many children, especially males, who were suspected of stone, proved to have tubercular kidneys. It is not easy always to determine cases of this kind. In one instance recently under observation, where in addition to medical treatment, circumcision of an elongated prepuce had been performed, extensive renal tuberculousis with almost entire atrophy of one kidney was shown after death to have taken place. In assisting to make a diagnosis between what we may call medical and surgical incontinence, I have found the use of the thermometer extremely valuable in doubtful cases. If there are tubercles in the kidney, the temperature will generally show them, provided the observations are continued for some time, in addition to other indications which it is not my province to enter upon.

Of the various operations employed for the relief of urinary affections, it would be difficult to mention one that had given better results generally than cystotomy; the least favorable cases, in my experience, have been those where this operation was undertaken for symptoms traceable to tuberculosis. Of these I might instance several. The following example was a particularly interesting and instructive one of its kind.

Some years ago a small boy four years of age came under my care at the Royal Infirmary, at the request of Dr. Little, on the suspicion that he had a stone concealed somewhere in his urinary organs. He had many of the symptoms of this complaint, but though he had been sounded several times, no calculus could be felt. He was the child of distinctly strumous parents, and was singularly bright and intelligent for his age. Twelve months previously he commenced to wet his bed at night, and to suffer from urinary irritability in the daytime. Occasionally very small quantities of blood had been detected with the microscope in the urine, which was invariably acid and opaque. Within two months prior to his admission, the urine had been charged with mucus and granular matter, contain-

ing a few pus cells of a tenacious character, efforts to expel which from his bladder produced much spasm and suffering. To aid micturition, and at the same time with the view of mitigating his spasm, he acquired the habit, which at last became constant, of pulling at his penis. He seemed, as it were, to milk-away the urine and what it contained from his bladder. It was under these circumstances he came into the infirmary, when it was found necessary to give him sedatives freely. The urine, always granular-looking and opaque, now and then contained something which seemed more like the white of an egg half boiled than anything else. He was sounded, under ether, but nothing abnormal could be detected by any form of physical examination that was employed. Towards evening he was generally noted to have a rise in temperature, and there was a distinct tendency towards hectic. To alleviate the constant pain and spasm of micturition, a median cystotomy was performed, but with little benefit. The spasm and vesical tenesmus still continued almost unabated. In the course of a month the child died with renal symptoms and a gradual suppression of urine. Post-mortem examination showed nothing wrong with the bladder or the urethra. The ureters were dilated and the kidneys cystic and tubercular. Some of the cysts thus formed, communicating with the pelvis of the kidney, contained thick gummy-looking mucus similar to that which was observed in a more diluted form in the urine; the cyst-walls seemed to be engaged in secreting this viscid matter, which obviously with some difficulty had found its way along with the urine down the ureters. This was the explanation of the dilated ureters, the bladder spasms, and the irritability which led to cystotomy being practised. Without such an explanation, it was difficult to understand how the ureters could be dilated, and yet no stricture exist in the urethra.

This case has since served to illustrate, in connection with others of the kind not very dissimilar in history, progress, and results, at least three points:

1. That urinary incontinence or irritability in young children may proceed from renal tuberculosis.

2. That though cystotomy gives relief by allowing escape of the viscid mucoid material, the tubercular cysts in the kidneys furnish, when it has reached the bladder, by slowly trickling, or insinuating itself down the ureters, there might in other cases of this kind be more cogent reasons for opening and directly draining the cystic kidneys, with the view of preserving what remains sound in structure, as well as of preventing the constant spasm or colic which is aroused by the products of the disorganized kidney forcing a way along the ureters.

3. That such a case serves to illustrate those extremely rare cases (of which but few specimens are known to exist) where stones in the bladder have been found, wrapped up as it were in fibrous or gelatinous envelopes.

It was only comparatively recently, until I had by the kindness of Mr. Bickersteth an opportunity of carefully preserving and examining a well-marked specimen of what these tubercular cysts in the kidneys are capable of pouring along the ureters into the bladder, that I felt it possible to explain the formation of semi-fibrous stones. The best specimen I know of is in the Liverpool Infirmary Museum, and has been there referred to by me on a previous occasion.*

"In 1873, a boy was admitted into the Liverpool Royal Infirmary, under the late

* The Surgical Disorders of the Urinary Organs, second edition, p. 281 (with plate of stone).

Mr. Long, suffering from symptoms of stone. The child was sounded carefully, but without any evidence of stone being afforded. Death occurred in the course of a few days. On making a post-mortem examination the kidneys were found in an advanced stage of tubercular disorganization and cystic. The bladder was small, and in it lay a calculus made up of a urate of ammonia nucleus, the size of a damson-stone, surrounded by a thick layer of soft material, consisting of mucous fibrin, and a little gritty matter, probably phosphatic. The outer covering could be cut or torn easily, and after it had been in spirit it presented on section a laminated appearance, like the fibrinous layers found in an aneurism. On striking the mass with a metal instrument no ring was produced; hence the impossibility of determining its existence with the sound during life." Mr. Bickersteth records a similar example.*

The possibility that in a strumous subject a small stone in the bladder may, as it were, be wrapped up in a fibrous sort of coat furnished by a tubercular kidney must not be lost sight of in the investigation of obscure cases of vesical stone, whether or not the explanation I have offered as to their formation be a satisfactory one.

In the diagnosis of urinary tuberculosis in the adult male, in whom this disease is frequently found between the ages of twenty and forty, the careful examination of the testes and prostate with the finger often furnishes valuable evidence as to the probability of tubercle existing in some other portion of the genito-urinary apparatus which is beyond reach. When such evidence coexists with positive signs of functional urinary irritation in some form or other, further evidence as to the cause of the symptoms is hardly requisite. In all cases where there are grounds for suspicion the testes and prostate should be carefully examined. So far as the testes are concerned, there is nothing to be said in reference to their mode of examination. With the prostate it may be observed that our generally recognized method of examining this gland with the patient on his back or side is a very imperfect one, for whatever purpose, diagnostic or otherwise, it is required. To examine the prostate thoroughly, and with the least amount of discomfort both to the patient and the surgeon, the former should be placed with his abdomen over the end of a sofa or on a pillow over the side of a bed, with the legs slightly apart, so that the surgeon may introduce the finger into the rectum with its palmar surface downwards, the patient's abdomen being at the same time pressed backwards and towards the pelvic outlet by the weight of the body on the bed. In this way the most accurate information can be obtained by the finger, respecting the size, consistence, and relations of the gland. In urinary tuberculosis in the adult male small rounded bodies like shots, sometimes softened in their centres, can be felt either singly or scattered throughout the gland. This I have often demonstrated in the wards of the Royal Infirmary in connection with the diagnosis of urinary tuberculosis. In young male children, or in adults where the prostate is immature, and it is difficult to make out accurately with the finger, even under an anæsthetic, the consistence and boundaries of the glands, I generally examine with a slightly flattened smooth staff in the bladder; this furnishes a central point of resistance which renders it easy to detect any structural change by the finger, such as a tubercular deposit. I attach much

* Observations on Lithotomy, Liverpool Medical and Surgical reports, vol. i., 1867.

importance to the examination of the prostate in all cases of suspected tubercular disease of the urinary organs.

On Buried Sutures, with Remarks on the Importance of Suturing Separately, Periosteum to Periosteum, Muscle to Muscle, Deep Fascia to Deep Fascia, and Skin to Skin, After Deep Incisions of All Kinds.

Dr. C. B. KEETLEY thus writes in the *Brit. Med. Jour.*, May 2d: Buried sutures, or "sunk sutures," as they have been also called, are such as are completely covered by the skin, and do not involve that structure at all. In the form of sutures uniting the fragments of fractured bones, especially the olecranon and patella, they have long been employed, and also as sutures to unite divided nerves and tendons, as well as wounded veins, intestines, and other hollow structures. But all the above-mentioned forms of buried suture differ essentially in their objects from those to which I wish to call attention. The former have each a narrow and very limited, though, perhaps, extremely important aim. For instance, a patella is sutured with a view to getting secure bony union, a wounded intestine with a view to preventing extravasation of fæces into the abdominal cavity.

The sutures of which I now wish to speak, are employed with intent to influence the whole course and final result of wounds in general. For instance, let us suppose buried sutures of the first kind to have been used to unite the two ends of a divided nerve; the use of the other kind of buried sutures would now commence, and proceed as follows:

Whatever muscles or aponeuroses had been divided in cutting down upon the nerve would be restored to their original relationships, and kept there by aseptic animal sutures, such as carbolyzed gut; then the wound in the deep fascia would be separately sewn up. Finally, the wound in the skin would be closed by either catgut or silver, or whatever might be preferred. What good do we expect to get from this?

1. We need no drainage-tubes. No spaces or pockets are left wherein blood or serum can collect, and, therefore, it does not collect. I presume that all wounded vessels, of a size such that the blood-pressure would force blood out of them in spite of the buried sutures, have been carefully secured, and that the wound is thoroughly aseptic.

2. The sutured muscles and aponeuroses are eventually perfectly restored as regards function, as also is the deep fascia. Even the deep fascia has important functions, especially in certain localities, and in connection with the following points:

3. Deep, rough, and depressed cicatrices are avoided.

4. Necrosis of bone and sloughing of soft tissues are prevented.

To dwell for a moment or two on the history of the subject (before illustrating its practical application by a description of my own experience), it has first of all to be confessed that this, like other important developments of antiseptic surgery, has attracted most attention in Germany. There it appears to have originated in the practice of Werth, the gynecologist, who praised these sutures

highly, as tending to success in operations for ruptured perinæum. It is, however, Esmarch's assistant, Neuber (the inventor of decalcified bone drainage-tubes), and Professor Küster, who are the chief apostles and pioneers of this great advance in surgery, for such I esteem it. It was a pamphlet by the former, giving an account of the amputations done at Kiel during last year, which first called my own attention to the matter.

Neuber has worked out the subject thoroughly, more especially in a pamphlet entitled *Vorschläge zur Beseitigung der Drainage für alle frischen Wunden* (Lipsius and Fischer, Kiel, 1884).

Küster read his paper at the last meeting of the Society of German surgeons. In the discussion which followed, Esmarch having stated that with these sunk sutures, drainage-tubes could be altogether dispensed with, he was asked "What, after excision of the hip?" He thereupon answered, shortly and decisively, "Yes."

Turning to my own experience, which, though sufficiently varied, is small as compared with that upon which Neuber, Küster, and Esmarch base their assertions, I have carefully recorded the details of two amputations of the thigh, and one of the leg, two excisions of the hip, one case of *évidement* of the bones of the knee-joint, one wedge-osteotomy of the hip, one osteotomy of the tibia and fibula, one operation for ununited fracture of the same bones, two suturings of fractured patellæ, one removal of sequestrum in necrosis of the symphysis pubis, with large abscess in the abdominal wall; one operation for congenital contraction of the knee by open antiseptic incision; one incision to examine a chronic swelling of the parotid, one excision of multiple sebaceous glands of the head, and two cases of resection of the quadriceps extensor cruris. In all these seventeen cases, except two, the buried sutures have done all which sanguine hopes could expect of them. But, in stating this, I must confess that I have not always dared to dispense with drainage tubes. I simply thought I ought to feel my way cautiously. Of these two cases which I have mentioned as being exceptions, one was an almost hopeless case of amputation of the thigh in an old lady, over 70, who suffered from sloughing of almost all the soft parts of one lower extremity, from the knee downwards, with burrowing of pus up to the hip, the cause being erysipelas. She died forty-eight hours after the operation. The remaining case possibly casts a slur upon buried sutures, or upon their employment in my hands. A man, aged 30, with advanced strumous disease of the knee, tuberculous disease of both lungs, and hectic fever, had the knee freely excised, and all the diseased synovial tissues removed with scissors and sharp spoons. The bones were then fixed firmly together with silver sutures, and the wounded soft parts secured with buried sutures. His only hope could lie in speedy osseous union. Unfortunately, the edges of the flap sloughed. Thus frequent changes of dressing, with consequent slight disturbances of the ends of the bone, were necessitated. Finally, our efforts to keep the wound aseptic failed, and amputation was performed. I think it possible that my covered sutures had seriously interfered with the imperfect blood-supply in this poor enfeebled creature.

I will describe briefly two or three of the above cases and their results. In amputating the leg, two lateral and very short-rounded skin-flaps were made. A very short distance (about half an inch) above the angles of junction of the skin-

flaps, the muscles were divided by a circular sweep. The periosteum was divided nearly as low down as the muscles, and turned back up to the level where the bones were divided. The periosteum must be reflected to an eighth of an inch or more beyond the point of division of the bone, and carefully held out of the way, without being stripped further up, while the saw is being used. Next, the vessels are tied until it is time to put in the sutures. About three or four will draw the periosteum securely over the cut surfaces of each bone, leaving a small opening opposite the medulla. Next, the muscles and aponeuroses of the extensor side are united to those of the flexor side, more or less *en masse*, by five or six sutures of strong catgut. These sutures had better not, as a rule, be made to go quite through to the deep surfaces of these structures, but should be half an inch to one inch from the cut edges at the superficial surface. The bones are thus completely covered. Next, the deep fascia should be separately sutured, and lastly the skin.

Almost the first time I ever tried buried sutures was in an amputation of the leg (middle third) done in February, 1884, in the West London Hospital. The flaps, when thus sewn up, were too tight to allow room for a drainage-tube to be inserted without violence. Therefore none was used, except one of very small size passed through one corner of the skin-incision, but not into the depth of the wound. This case was further complicated by the fact that, owing to an unhealthy condition of the marrow, the medulla of both tibia and fibula was scraped out right up to the upper epiphyses of those bones; and the medullary cavities, thus emptied, were injected with liquor hydrargyri perchloridi (whose strength, it may be remembered, is just over 1 in 1,000).

Healing took place throughout by the first intention, except as regards the skin, which gaped a little when its sutures gave way. However, the muscles, and doubtless the periosteal sutures, held on; and the edges of skin soon, as it were, crept together again. The temperature rose on several days to 101° , and then gradually sank to normal on the tenth day. There it remained, except that, once or twice during the next month, it rose to 102° , for no reason in any way connected with the stump, as far as could be made out. The patient has long been quite convalescent, and is using an artificial leg.

After the excisions, the wedge-osteotomies and the suturing of the patellæ, the excellent results, as regards freedom of the skin-cicatrix from cicatricial anchorage to the bone, were very manifest. They contrasted strongly with the deep valleys which soon follow incisions for resection, when sutured in the ordinary way. This good effect is, of course, particularly valuable in the face.

Resection of the quadriceps extensor for infantile paralysis, with loose knee, would not be justifiable without the use of buried sutures. Concerning the ultimate result of these cases, there has not been time yet to judge; but in each of my cases I have succeeded in shortening the muscle an inch and a half, with rapid healing of the wound by first intention, no deformity or depression, and merely a longitudinal, linear, undepressed cutaneous scar. No drainage-tubes were used.

The large abscess-cavity in connection with the necrosed symphysis pubis extended outwards as far as the iliac crest, and was nearly as wide. It was supposed, when sent to me, to be an inguinal hernia. I slit it up, scraped out its

lining thoroughly, and closed it in with sutures which passed from side to side beneath its floor, but not through the skin; it was thus reduced to a long narrow and shallow groove. This I closed with superficial sutures. The deep sutures held on till the depth of the cavity was obliterated by the healing process. At the lowest angle of the wound, a drainage-tube was passed straight down to the small cavity from which the necrosed syphysis had been extracted.

In no cases have I found these sutures more brilliantly successful than in dealing with sebaceous cysts of the head. Having dissected out three from the scalp of a gentleman, I obliterated the remaining cavities by two buried sutures in each, passing them well beneath the floor of each small wound. No cutaneous sutures were used at all; the skin-wounds did not gape. Over the wounds was placed a coat of salicylic acid dissolved in ether, as well as a little powdered salicylic acid. No bandages were used. The patient went daily to his work at Somerset House, attended a garden-party in the meanwhile, and, a fortnight afterwards, washed the salicylic scab, as it might be called, off three sound linear cicatrices. It is important to say that he was not allowed to brush his hair during the treatment; it was kept both tidy and aseptic by occasionally sponging with a wash containing spirit, corrosive sublimate, and rose-water.

In conclusion, I have to say that it is only in strictly antiseptic surgery I would venture to recommend the use of these sutures; but that, in the case of all surgeons who have faith in antiseptic theory and practice, they will find in buried sutures an effective and beautiful addition to their methods.

Fatty Tumor of the Hand.

To the Clinical Society of Maryland (May 15th), Dr. J. E. MICHAEL exhibited a fatty tumor he had removed from the palm of the hand. He said he had had a series of fatty tumors; the specimen was from a colored woman; she had had a swelling in her hand for a long time. No pain, but the fingers moved stiffly. From the history of the case and the fact that a grating was felt upon deep pressure, he thought the trouble might be due to an enlarged ganglion.

The patient when first seen was an out-patient of University Hospital, and after an incision had been made by Dr. Tiffany, and the diagnosis thus rendered certain, she was sent into the house. The tumor was exposed by a cross-incision, and dissected out with the fingers. An Esmarch bandage was used, and but little blood was lost; after removal of bandage the wound was washed with a hot douche, an iodoform bandage was put on and a ball of oakum in the hand. Wound healed with but little suppuration. He had seen two cases of tumors of the same character, one in a child two years old; a diagnosis is hardly possible without exposing the tumor. In the case of the child the tumor was in the sole of the foot, causing the arch of the foot to spread, projections from the tumor going in between the bones. A second case showed the trouble in the wrist; an incision being made down to the tumor, it was found to be beneath the tendons.

The Treatment of Rupture of the Bladder.

The *N. Y. Med. Jour.*, June 13, says: The influence of modern teaching in regard to peritoneal surgery is no more strikingly shown than in the treatment of this formidable injury. The recognized course in rupture of the bladder was

formerly to establish free drainage by performing cystotomy, a rational procedure, yet one which was frequently attended with imperfect results. It is true that writers on surgery suggested laparotomy as an extreme measure, but never with much enthusiasm. With the growth of abdominal surgery there have been ample opportunities of studying intra-peritoneal wounds of the bladder of accidental origin. Non-union is the exception in such wounds, provided the edges have been carefully coaptated, and peritonitis from this cause alone is rarer still. Observations of these facts and the knowledge of the tolerance of the peritoneum have so emboldened modern surgeons that now the teaching is not merely to establish drainage and allow the wound to close by granulation, but to open the abdomen at once and sew up the rent in the organ. Güterbock, in a recent article in the "Archiv für klin. Chirurgie," after referring to the unfavorable results which frequently followed the old method of treatment, boldly says that "it is incumbent upon every surgeon to resort to laparotomy without delay when the diagnosis of vesical rupture is at all certain." He advises sewing the edges of the rent to those of the abdominal wound, the subsequent treatment being the same as that pursued after supra-pubic lithotomy. The author makes no distinction between large and small, extra-peritoneal and intra-peritoneal wounds, all being treated in the same manner. This is certainly a mistake, since, as was before remarked, small accidental openings into the bladder, occurring during the course of a laparotomy, are frequently closed with fine sutures, no provision being made for drainage except by catheterism, and the result is perfectly satisfactory. There is room for the exercise of considerable judgment as to when the tear should be sutured *in situ*, and when an external communication should be established. There are cogent reasons why recent wounds of moderate size with clean-cut edges should be treated intra-peritoneally, especially if they are located, as is so often the case, high on the posterior wall.

Bold as the procedure so warmly advocated by the German surgeon may appear, in the light of our present experience it is not only justifiable, but is often a duty.

Surgical Dressings.

The *Med. Press*, May 20, says: A large number of antiseptic materials have been lately used, with various success. Carbolic acid has the disadvantage, when used in a concentration strong enough to ensure asepsis, of irritating the wound in its neighborhood, and producing serious, even fatal, poisoning phenomena. Even the mildest solutions require an unusual degree of care in the preparation of the materials and the control of the dressings. V. Bruns has always been skeptical of the necessity of the carbolic spray, and finally concludes that it is worse than useless. He substitutes irrigation (2 to 5 per cent. solution) with good results. Trendelenburg questions the essential necessity of the spray, and concludes that in most cases it may be dispensed with. He uses it only in laparotomies. He finds that the neglect of antiseptics is very dangerous in osteotomy, opening of joints for extraction of foreign bodies, drainage of joints, extraction of hydrocele and of ganglion; but he does not use the spray. Mikulicz comes to the same conclusion. In this regard consideration of air as a conductor of infection is very important. The quantity of infection germs which reach unto

the wound is more so. Buchner finds in a room of a thousand to two thousand c. b. m. 10 to 20 millions of such germs; but this number is very small when we consider that in a single drop of decomposing fluid we can find a milliard of bacteria. The danger of infection through the air is then very slight as compared with that through the hands, sponges, and so forth. The quality, also, of the germs is not dangerous. They are nearly all dry germs, and require as such longer time to germinate, as well as more favorable physical and chemical conditions, insomuch as at the start they act with less energy than the moist. For the rest, it remains yet to be proved that active pathogenic micro-organisms exist in the air. The mechanical conditions carry us a step farther. Dry germs are very small and very light; they will thus only loosely adhere to the surface, and will be washed away by the natural processes of the wound. The effects of the spray may be considered from a mechanical and a chemical point of view. The mechanical process consists in the fine division of a fluid which seizes upon and brings down the germs suspended in the air. There can thus be no doubt that the mechanical action of the spray can be nothing but harmful to the wound, inasmuch as the germs which would otherwise only sparingly reach the wound are concentrated on it by the spray. This is obviated, of course, if the particles of the spray recohere and flow away; but this is nothing but irrigation. The chemical working of the spray consists in—(1), destroying the vitality of the germs, and (2), impregnating the wound with a certain quantity of antiseptic, thereby presenting an unfavorable ground for the development of micro-organisms. But irrigation fulfils all these purposes. Rydygier, however, combats these views, and adheres to the spray. Wm. Main (*Brit. Med. Jour.*, December 24, 1881), uses an indifferent spray of glycerine and water (1-16). Eucalyptus vapor and carbolic vapor are also used instead of the spray. Schede uses glass-wool and capillary glass drainage, also glass-silk sublimatized in each case. Their absorptive power is so considerable that immediate cohesion of the wound results from their use. Compression or elbowing cannot interfere with their efficiency as drains; incision and counter-incision into the deepest localities are seldomer necessary, since capillary attraction is sure to draw out the secretion from the very deepest points. Of course glass drainage is not applicable to a wound where there is pus or blood-clot.

The Dry Treatment of Carbuncle.

Dr. C. H. HUGHES thus writes in the *Weekly Med. Review*, June 6: What I mean by the dry treatment of carbuncle is an unirritating treatment without poulticing or cutting. I have not made the classical free incisions into carbuncle for twenty years, and have never had the misfortune to lose one of my own cases. Of late years, however, being regarded as a neurological specialist (a term I very much dislike), within whose province these cases are supposed not to fall, I am seldom called upon to see carbuncle in its latest stages.

The cases which now come under my observation are those which come on incidentally as a part of the general neuropathic breakdown, most often following or occurring in the course of an exhausting neuralgia, neuratrophic dyspepsia, or general functional neurasthenia (neurasthenia), and anemia. Such cases are not

rare in my experience, and I prefer to manage them myself rather than to transfer them to the surgeon, and this is the way I treat them :

The carbuncle is first cleansed with a five or ten per cent. solution of creosote, carbolic acid or chloral, the weaker or stronger solution according to the stage of destruction, the opening being injected lightly. After this washing, dry the part with absorbent cotton (formerly I used lint), and then apply tannin freely, so as to thickly cover the whole carbuncular surface. Over this apply a piece of patent lint, thickly spread with simple oerate. Let this dressing remain from twenty-four to forty-eight hours. Then renew the washing and the dry dressing.

Sphacelated membrane may be removed with the dressing forceps from time to time, and very slight cuts may be made to facilitate this.

But the carbuncle does better if not irritated by the knife at all. Morphine may be sprinkled sparingly with the tannin for anodyne purpose if desired. The less a carbuncle is irritated by knife or caustics or untimely pulling at dead membranous shreds, the better.

The less its vessels are dilated and circulation stimulated by warm poultices, the better. There would be no objection to very hot water to the skin around the carbuncle.

The internal treatment is muriated tincture of iron, glycerine and arsenic, separately or combined, suitable laxatives, a highly nourishing diet and chloral hydrate in full hypnotic doses every night, not only for its tranquilizing and restful effect upon the cerebro-spinal centres, but because of its antiseptic power.

Very moderate quantities of the opiates (just sufficient to keep the patient free from pain and give a tonic support to the nervous system during the day) are likewise advisable, though I have treated very bad cases without opium, and they had but very little pain.

An adjuvant remedy of great value and in constant use with me in the management of these cases is a constant galvanic current, employed, if the carbuncle occupies its favorite site at the back of the neck, so as to influence the circulation through the cervical sympathetic centre. This soothes always, and may account for the absence of pain in many cases.

A patient with carbuncle ought never to be sent to bed, though he may have to take to his bed. He ought never to be put on a low diet, and while he ought to be enjoined to refrain from harassing business work and worry from the very beginning (for carbuncle is always associated with constitutional break-down, most usually in the nervous system as well as with blood impoverishment), he should not be alarmed by suggestions of a probable fatal termination, but should be advised to keep out-doors, in good weather, all he can, taking exercise in a passive way, even if he only sits at a window or in a doorway on the sunny side of his house.

The following formula represents the writer's ordinary prescription for internal use:

R.	Tr. ferri chl.,	℥xx
	Glycerinæ,	℥xl
	Liq. potas. ars.,	℥iij. M.

S.—Give three times a day in glass of water through a tube.

The iron may be given as freely as in erysipelas. When it is so employed, the

Fowler's solution must of course be omitted from all but three or four of the doses daily. I have seen carbuncles occupying the whole of the back of the neck, one of them six and a-half inches in its long diameter and five inches transversely, and advanced into the third week before this plan of treatment was adopted, recover perfectly under it.

The chloral is not essential in the management of carbuncle, nor is electricity, nor is anything except the creosote wash, the tannin dressing, and the iron. Poultices and the early deep crucial incisions are positively detrimental.

Mumps; with an Unusual Sequel.

Dr. RICHARD MCSHERRY thus writes in the *Jour. Am. Med. Ass.*, June 6: All the contagious diseases present complications or sequelæ more or less familiar to practitioners, but generally we find attributed to mumps only metastasis, to testes in males, to mamma in females, or mayhap some affection of the ears, or occasional though rare suppuration of or about the parotid or other salivary glands.

But in fact there may be various other complications or sequelæ which may need attention.

Thus some French observers, Lannois and Lemoine, call attention to the pseudo-rheumatism which may attend or supervene upon mumps, just as it may upon other infectious diseases, as erysipelas and scarlet fever. It may attack the articulation or synovial sheaths of muscles; in short, there is an apparent sub-acute rheumatism, which, however, is not amenable to the therapeutic agency of salicylate of soda.

According to Dr. Fournié, hearing and sight are apt to be temporarily or permanently impaired, the disorders coming on during or subsequent to the attack of mumps.

Thus we may have deafness, temporary or permanent, and occasionally some of the symptoms of Ménière's disease. There may be otorrhœa, from catarrh of the meatus, or otherwise we may find ocular complications, as, 1, conjunctivitis; 2, inflammation of the lachrymal gland; and, 3, sensorial derangements of diverse nature.

These affections are supposed to be due to the infectious principle of the disease acting upon the nervous system.

The writer lately had a case in which there was a sequel more remote from the seat of origin than about the eyes or ears. Miss S., a finely developed young lady, aged about five and twenty, demanded advice on April 16, having recently recovered from a severe attack of mumps, during which she returned home from a neighboring city. She complained of great pain in deglutition, which she located especially about the centre of the sternum, though radiating to the sides of the chest, and backward towards the spine. There was no fever. The treatment directed was:

R. Glycerine.	3j
Syr. rhu.	3ij
Tinct. belladonna.	3j. M.
S.—Teaspoonful four times a day.	

An application was made of Thapsin plaster over seat of disease. Two days

of this treatment gave no relief. Pain was persistent, always increased upon every attempt at swallowiug. with a sense of gurgling at an apparent point of obstruction. Inability to take food and a sense of oppression amounting to suffocation (*besoin de respirer*) gave her great alarm.

- R. Vin. ant. et potass, ℥j
 Glycerine, ' ℥ss
 Ol. morrhua, ℥j. M.
 S. Of which teaspoonful doses were given at short intervals,

the oil to lubricate the passage, the antimonial to cause relaxation by nausea. Very transient relief followed. On the 21st, to ascertain if any organic obstruction was in the way, an œsophageal tube was passed down by my son, Dr. Clinton McSherry, without difficulty, but still with aggravation of pain.

She was then directed to take the following prescription :

- R. Ol. morrhua, ℥ij
 Aq. calcis, ℥iss
 Glycerine, ℥ss
 Morph. ss. gr., acid hydrocyanic dilut., gtt. xxx. M.
 S.—Dessertspoonful every three hours.

These oleaginous mixtures were swallowed more easily than food or drink. Soft eggs were ordered as the principal food. They were alleged to increase pain, but this appeared to be due to the fact that pepper and salt were used upon them pretty freely, which were directed to be subsequently omitted. As the bowels were quite costive, there was ordered :

- R. Calomel, gr. x
 Ex. colchic. rad., gr. iv. M.
 S.—In four capsules, one morning and night to the desired effect.

As these caused no action, castor oil was subsequently given.

Pain and distress in the meantime continued still severe. On the 24th, recourse was had to the most time-honored of the old remedies used for the neurotic disorder conventionally called hysteria, thus :

- R. Gum assafoetida, Pulv. gum acacia, āā ℥j
 Aqua, Oss. M.
 S.—Tablespoonful every three hours.

On the 25th the improvement was very decided, but also coincidentally there was very decided salivation. A mucilaginous mouth-wash with chlorate of potash and borax was directed, and afterwards, for some spots of ulceration, local dressings of bismuth, rhubarb and gum arabic, all of which served a good purpose. Convalescence was then fairly established.

It is in evidence that some perturbing neurotic disturbance, some morbid sensibility, was affecting the tract of the œsophagus in the middle of its way, where it is supplied by filaments from the posterior pulmonary branches of the par vagum, and thence probably by reflex action, all the distress that pervaded the adjacent parts of the chest.

Was the œsophageal disease a sequel proper of the mumps, just as a pseudo-rheumatism may be, or was it merely a *post-hoc* development? In the treatment

of the case the oleaginous mixtures and morphia had some relieving effect, but did not cure. How much of this result may be due to the assafoetida, or how much to the profound impression made by the mercurial? There was doubtless some hyperæmia at the sensitive part of the œsophageal mucous membrane, if not actual inflammation, and it is reasonable to believe that a free secretion caused at once in the salivary glands, as well as in the racemose glands of the œsophagus, by the mercurial, greatly promoted the cure. Salivation was certainly no part of the design, and the writer is quite willing to let the reader judge for himself as to the remedial influence of the various agents used.

Hæmoptysis in Syphilis.

Dr. A. W. REYES, in the *Eco Cientifico*, a Cuban medical journal, mentions some cases of hæmoptysis occurring in the second stage of syphilis during treatment by the green iodide of mercury. In one case the hæmoptysis disappeared when the iodide was stopped, and recurred each time this drug was recommenced, so that Dr. Reyes suggests that in some persons the plasticity of the blood is so diminished by this preparation that either by its independent action or by its augmentation of that of the disease, it produces a fatty degeneration of the capillaries of the respiratory passages, so giving rise to rupture and hæmorrhage.

An Improved Fastening for Elastic Bandages.

In the *Brit. Med. Jour.*, Feb. 1885, p. 386, Mr. G. S. MAHOMED writes that he has adopted a very simple plan for fastening elastic bandages, so as to do away with the tapes by which such bandages are usually fastened. This plan is merely to attach two shirt-buttons on the webbed end, and to supply with each bandage a piece of fine red rubber about fifteen inches long, with a double row of holes punched out at each extremity. One end is fastened over the shirt-button, and may remain so permanently; the other is then passed round the leg, and brought over the buttons again, and so secured.

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—OF—

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—A—

SYNOPSIS

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SURGERY AND COLLATERAL SCIENCES.**

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I. ANATOMY, PHYSIOLOGY AND PATHOLOGY.

Necrosis of all the Principal Long Bones.

At a recent meeting of the New York Pathological Society, Dr. W. P. WATSON, of Jersey City, exhibited specimens, consisting of certain vertebræ, removed from the body of a child which had died of pneumonia. The child had first developed a swelling over the right thigh, which was said to have entirely disappeared. Afterwards there was a curvature of the spine in the cervico-dorsal region, reaching a right angle, but at no time was there paralysis. Abscesses also developed over the thigh and both wrists, and exsection of a considerable portion of the right radius and of the right knee-joint and lower portion of the femur was performed. At the autopsy there was found to be marked absorption of the fifth, sixth, and seventh cervical, and of the first and second dorsal vertebræ. Very little compression of the cord was found to have taken place.

Pigmentation of the Skin in Addison's Disease.

Before the Vienna Society of Physicians, Dr. RIEHL read a paper detailing his investigations upon this subject. These confirmed the assertion of Nothnagel that the pigment in this disease is not elaborated in the epidermis, but is found in the deeper layers of the skin, sometimes massed around the vessels, and is deposited there by the blood. The writer had made microscopical examination of the vessels of the skin, and had found the adventitia in all cases remarkably nucleated. The cell-infiltration was found not only in the pigmented, but also in the colorless portions of the integument. In the arterial twigs of the cutis the media was also swollen and indistinctly pigmented. In some cases he found thrombi of the small arterioles. Since these arterial lesions were found in the entire integument, even in the non-pigmented portions, and also in some of the subcutaneous tissues and some of the internal organs (liver, peritoneum, and pleura), but thrombi only in the skin and suprarenal capsules, the author concluded that the arterial disease was primary and the cause of the deposit of pigment from the blood.

Absence of the Patella.

The *London Med. Record*, July 15, says that Dr. Dukhnovsky, of Odessa, records (*Proceedings of the Odessa Medical Society*, No. 11, 1884, p. 161) the case of a soldier, aged 22, who complained of difficulty experienced by him in walking, and of general weakness and fatigue of his lower limbs. Examination detected a complete absence of the right patella, and a rudimentary state of the left, the latter presenting a cartilaginous body about the size of a small almond. There was found, also, flat feet, atrophy of the leg-muscles, and rotation of the feet and

legs outwards. The patient's gait was not unlike to that of a tabetic subject, the feet and legs being thrown outwards in walking. Flexion in the knee-joints was extremely free, the patient being able, without any effort, to touch his buttocks with the heels. He was ultimately discharged as unfit for military service. Dr. Bernstein, of Odessa, saw a very similar case (of absence of one patella, and rudimentary development of the other) in a young officer, of short stature and weak build, and with tottering gait. It is curious to note that the officer, though an intelligent person, even did not suspect that there was anything wrong about his knee-caps.

Hermaphroditism in the Goat.

Before a recent meeting of the Academy of Medicine in Ireland, the President made a communication on this subject:

The external genitals showed merely an imperforate clitoris-looking body, and behind this an aperture just large enough to admit a goose-quill, through which the animal micturated. One oval body, which felt like a testicle, was detected in a diminutive scrotum. On opening the abdomen a large bicornuous uterus was discovered, with a capacious vagina imperfectly marked off from it. This vagina opened into the uro-genital sinus, which in turn opened on the surface at the aperture before mentioned. Two well-developed testicles occupied the places of the ovaries in the broad ligament, and each showed a small hydatid of Morgagni and a large organ of Girdaldès. The latter had been injected with mercury, and a connection had thus been established between its tubes and those of the globus major and the tubuli seminiferi of the testicular body. The vas deferens ran down in the wall of the uterus (like the duct of Gaertner in the sow) and opened into the uro-genital sinus. Embedded also in the wall of the vagina were traces of the vesiculæ seminales. Many cases of this kind, the author stated, had been put on record, and he regarded it not as a case of true hermaphroditism, but as a case of hypospadias, in conjunction with a great development of the vesicula prostatica.

Congenital Absence of One Lung.

The *Deutsche Med. Wochens.*, of April 30, contains an account of two cases of congenital absence of one lung, reported by Dr. Münchmeyer to the Medical Society of Lüneburg. The one was a healthy boy, aged 2 years, who was attacked with pneumonia on Feb. 8, of this year. The right side of the thorax was dull up to the sixth rib, with loud crepitation in the upper part. The left side sounded empty on percussion, and no breath-sounds could be heard; but the measurements of both sides of the chest were the same, and no difference could be perceived in the respiratory movements. Congenital absence of the left lung was diagnosed, and the diagnosis was verified by the necropsy which took place after the child's death on Feb. 21. The left thorax was then found entirely empty, with the exception of a small fleshy mass at its lower part. The chest-walls did not collapse on being incised, nor was there any foul smell in the contained air. In the second case, the malformation was not diagnosed during life. A well-grown healthy girl, aged 11, died, in the summer of 1850, of tubercular meningitis, after an illness of thirteen days' duration. On opening the chest in the

course of the necropsy, the medical men engaged were astonished to find the left half of the thorax empty, with the exception of a fleshy mass, of the size of a small apple, situated behind the heart. In this case, as also in the former one, the heart and pericardium were quite normal. The family medical man stated that the girl had never suffered from any form of respiratory difficulty.

Carbo-Hydrates in the Human Liver.

The *London Med. Times* (July 4), quoting from *Journ. Chem. Soc.*, June 1885, tells us that the *post-mortem* formation of sugar goes on in the liver, according to Kratschmer in the *Chem. Cent.*, from a healthy or diseased subject up to a certain extent, and quite independently of the amount of glycogen present at the time. Since the glycogen remains intact for a time, the sugar must come from other sources. The degree of fulness of the alimentary canal does not in general influence the result. Cases occur in which, with considerable amounts of sugar, no trace of glycogen occurs, whilst in other cases, in the liver of the lower animals as well as of the human subject, the glycogen has not been attacked. In pathological cases, both sugar and glycogen may completely disappear from the liver. The livers of both men and animals afford a substance containing both nitrogen and sulphur, which has not yet been described. When a liver free from sugar and glycogen is de-albuminized by treatment with hydrochloric acid and potassium mercury iodide, and the clear filtrate is mixed with 5 or 6 times its amount of 90 per cent. alcohol, a small snow-white flocculent precipitate is obtained, in appearance exactly like glycogen. This shrinks to gum-like flocks on the filter, is largely dissolved by water, and can be reprecipitated by alcohol. Neither saliva nor mineral acids convert it into sugar; it contains nitrogen and sulphur, is not precipitated by phosphotungstic acid, but is precipitated by potassium mercury iodide, and is distinguished by this and other reactions from albumin, peptone, mucin, and gluten. It also occurs in livers which contain sugar and glycogen.

Some Particulars Concerning Peritoneal Cancer and Tuberculosis.

The *London Med. Record* says that THOMEYER, of Prague, says that in cases where it is doubtful whether we have to deal with free ascites, or with tuberculosis, or cancer of the peritoneum, percussion may help us to form a diagnosis; in cancer and tuberculosis of the peritoneum, percussion gives a clear sound on the right side, dullness on the left. This depends on the fact that, the mesentery being inserted on the lumbar column a little obliquely to the right, when it is affected by these morbid processes, it forces the intestine over to the right side. According to De Giovanni, this is not an universal rule. In a case of chronic tubercular peritonitis, the line of dullness was the same as that due to ascites from hepatic cirrhosis. Only later, after paracentesis on the left side, there was produced a sacculated peritonitis, which gave the dullness on percussion as mentioned by Thomeyer. He also narrates a case of neoplastic peritonitis, in which the limit of dullness was that of free ascites. This case also presented a remarkable misplacement of the transverse colon, which lay in an oblique line ascending

from right to left, reaching the epigastric region, where it occupied all the region ordinarily filled by the stomach, and grazing the liver with its upper border; the coils of the small intestine were collected to the left of the abdominal cavity. The stomach was very small, its surface shrunken, without ulcerations. He also gives a case of tuberculosis of the peritoneum, secondary to tuberculosis of the mesentery and prevertebral glands. In this case the intestines were all collected to the left, and conglobated into a voluminous mass, which simulated a tumor, over which there was dull tympanic resonance. There was no trace of ascites.

Experimental Irritation of Brain.

The *Lancet*, July 11, 1885, says: The excitable regions of the brain are only to be detected with certainty by the use of electricity. As a rule, mechanical and thermal excitation yields no results. When experiments on the excitability of the cerebral cortex were first commenced, it was thought that any kind of stimulus was powerless to produce objective signs of irritation. Later on it was found that in certain cases and under certain conditions mechanical and thermal irritants applied to the "motor" regions could produce movements of the opposite side of the face and limbs. It has been chiefly in dogs that mechanical or thermic excitation of the inflamed "motor" areas of the brain has been productive of these movements. But such observations have been the exception. M. Vulpian has directed his attention once more to these problems. He puts the question whether there is any difference between the excitability of the nervous matter of the cortex of the brain and that of the spinal cord or nerves. Experiment has clearly shown that the subcortical white matter of the excito-motor area possesses but a relatively feeble degree of excitability. Four times the strength of faradaic current is required to cause a movement of the leg of a dog when the subcortical matter is irritated, as compared with the strength of current required to cause movement of the limb by excitation of the sciatic nerve. In order to prove that it is really this feeble excitability of the subcortical motor fibres which is the reason of the powerlessness of mechanical and thermic excitants, it is sufficient to show that any nerve ceases to provoke muscular contractions under the influence of thermic and mechanical stimuli when it no longer responds to the action of electrical currents. To the feeble excitability of the subcortical fibres M. Vulpian ascribes the powerlessness of thermic and mechanical stimuli to provoke movements when applied to the cerebral cortex.

Anatomical Abnormalities.

The following were amongst the abnormalities observed in the dissecting-room of University College, Liverpool, in a total of thirty-four bodies dissected since October, 1884, under the superintendence of Dr. BARRON, Demonstrator of Anatomy, and noted in the *Lancet*:

Vascular.—Origin of right subclavian from right aortic root—that is, fourth in the series of branches of arch. Absence of posterior scapular artery. Several cases in which two, three, or more of the branches of axillary arose by common trunks. Five cases of high division of axillary or brachial, at a level varying from three inches above the elbow to the lower border of the subscapularis;

in four of these cases the radial was the branch given off, in the other case the ulnar artery was superficial, and passed behind the internal condyle; in two cases the gluteal and sciatic arteries arose by a common trunk from the posterior division of the internal iliac; in one case of origin of the obturator artery from the deep epigastric it took the dangerous course, internal to the femoral ring.

Nervous.—Two cases in which the external cutaneous of the arm did not pierce the coraco-brachialis. Three cases of division of the great sciatic nerve in the pelvis. Two cases in which the median nerve passed behind the brachial artery.

Muscular.—Three cases of chondro-epitrochlearis. Third head to biceps from brachialis anticus. An accessory extensor muscle on the back of the forearm, which arose from the posterior surfaces of the radius, ulna, and interosseous membrane, and was inserted into the bases of the first and second metacarpal bones. One example each of occipitalis minor, costo-fascialis, and transversus nuchæ.

Osseous.—Presence of a supra-condylar process round which the median nerve and ulnar artery passed. Presence of a superadded carpal bone, the "os centrale."

Is Acetonæmia the Cause of Diabetic Coma?

The *Lancet*, July 4, says, contrary to the observations of Patters in 1857, whose views have been accepted by subsequent authorities, ALBERTONI, writing in the *Revista di Chimica, Medica e Farmaceutica*, endeavors to show that acetone is not the poison which causes death in diabetic patients. Indeed, when administered by the mouth it is, if pure, less poisonous, he states, than ordinary ethylic alcohol. The phenomena observed in diabetic coma are by no means always similar to those produced by acetone. He gave large doses (100 grammes) of glucose to rabbits, but could detect no acetone in the urine. Isopropyllic acid is partly changed in the organism, acetone being formed; part of the acid is, however, passed unchanged. In man, when a dose of six cubic centimetres is given by the mouth it is detected unchanged in the urine. Aceto-acetic ether does not produce symptoms of diabetic coma, but it does cause albuminuria and hæmoglobinuria, and is certainly eliminated in an unaltered condition. From previous researches it seems evident that aceto-acetic acid often exists in diabetic urine, its presence being detected by the red color given with perchloride of iron, if the urine is not boiled or treated with an acid. This acid is well borne by the organism, and cannot be the cause of severe poisoning. The condition which governs its appearance in the urine is the reaction of the urine and that of the renal parenchyma. If the urine is acid, the aceto-acetic acid is decomposed, forming acetone; but if alkaline, neutral or slightly acid, the aceto-acetic acid is found unchanged. This is the explanation of the discordant observations on this subject. It is probable that the formation of aceto-acetic acid explains the presence of albumen, which is sometimes observed in diabetes. Crotonic acid, the formation of which in diabetes was demonstrated on Stadelmann, cannot be considered as poisonous, two grammes producing no effect on rabbits. Crotonic aldehyde is, on the other hand, highly poisonous, even in small doses, four drops producing in a rabbit dyspnoea, and even narcosis, with the exhalation of an odor resembling crotonic aldehyde, and other phenomena which are described by Kuss-

maul as present in diabetic coma. Large doses caused powerful disturbance and rapid death, with epileptiform convulsions.

Congenital Deformities.

To the New York Pathological Society, (June 10,) Dr. A. JACOBI showed a boy, aged seven years, who presented certain congenital deformities, but was in normal health. The right upper extremity was normal. On the left hand there were but three fingers, the index and little fingers being absent, together with their corresponding metacarpal bones. The left ulna was 14 ctm. long, and the right one 16.75; the left elbow joint was imperfectly formed, allowing only partial supination. The lower extremities presented symmetrical malformations excepting in the following respects: The left foot was half an inch shorter and was smaller than the right; the right thigh was longer than the left by about 4 ctm. The movements of the right foot were much freer than those of the left. The patella was absent on the left side, and imperfectly formed on the right. The right leg was 28, the left 27 ctm. in length. On the left foot the second and third toes were slightly raised. The chest showed some signs of rhachitical development, most marked on the left side. The head and face were nearly symmetrical.

His sister, a baby, aged three years, had a congenital deformity of the right leg and foot. The tibia had an anterior curve, and at about the junction of the middle with the lower third there was a longitudinal scar half an inch in length. There was decided eversion of the foot, with absence of the fibula. There were but two toes, one being the great toe, the other apparently a blending of two toes. There were three metatarsal bones, the great toe articulating with the first, and the second toe with the two others. The right limb, down to the knee, seemed to be perfect. It was impossible to straighten the leg on the thigh, because of some malformation in the knee joint. The leg turned outward when it was straightened as far as possible. The right leg was shorter than the left by an inch and a half, being eleven inches long. There seemed to be no anterior tibial artery. The right foot was shorter and smaller than the left. As to the bones entering into the formation of the tarsus, it was impossible to state positively, but the cuneiform bones seemed to be absent. The right patella seemed to be somewhat smaller than the left, and was placed a little externally to the normal position. The three metatarsal bones articulated with the scaphoid and cuboid. The speaker had seen as many as three or four cases of absence of the fibula, there being a scar on the leg, which one might suppose resulted from an injury at a period of intra-uterine life when the skin was only partially developed.

Histology of Syphilitic Lesions.

The *Lancet*, Aug. 8th, says that twelve colored plates illustrate a fresh microscopical investigation into the histology of syphilitic lesions, by ISIDOR NEUMANN, the results of which are published in the *Vierteljahr. für Dermatologie und Syphilis*. We shall give here a brief *résumé* of the paper in question. Cutaneous syphilides are due to the overgrowth of small round cells in the immediate neighborhood of vessels. The vessels of the upper layers of the cutis and papillæ are chiefly affected, but the vessels of the deeper layers of the cutis (arteries and

veins) are also involved. The intensity of the morbid changes in recent maculæ is slight, but increases visibly as we pass on to papular, tubercular, and gummatus lesions. The morbid products in the macular forms are limited to the papillæ of the cutis, the epidermis not being involved. As the overgrowth of round cells goes on the limits of the papillæ are transgressed and the rete becomes infiltrated, whilst the cuticle becomes tightly raised over the subjacent swollen rete. The exudation consists at first of round cells, but later on the cells take on a spindle shape, as may be well seen at the outer limit of the vessel. Pigment is chiefly found in the form of granules of various sizes, and varying in color from orange to brown. The granules lie partly in the exudation and partly in the connective-tissue cells. In the former case resorption takes place readily, but not so in the latter. If the exudation has affected the rete, then this structure is also pigmented. The bundles of connective tissue of the papillæ appear to be swollen and spongy. This swelling may also be seen in the deeper layers of the cutis when gummata form. The hair follicles are altered in several ways. The hair sack may not only be surrounded by newly-formed cells, but may be actually thickened by an invasion of its proper substance. Clavate, lichenoid, and acneform outgrowths and cystic dilatations may thus be formed. The same changes have been observed in the subaceous glands. Giant cells were found in tubercular, lichenoid, and acneform syphilitic eruptions, as well as in cutaneous gummata. They were not detected in macular recent lenticular syphilides or in any of the primary forms. Isolated tissues of the skin, such as smooth muscular fibres, appear to offer some resistance to the disease. In individual sections round cells were found running in the course of the vessels of the arrectores, whilst in papules of the scrotum there was no infiltration of the abundant muscle fibre. An important point to bear in mind is the persistence of anatomical changes, even after all trace of them has disappeared so far as clinical examination can discover.

A Remarkable Case of Arrest of Growth of One Humerus.

MR. JONATHAN HUTCHINSON thus writes in the *Brit. Med. Jour.*, July 2. In the case which I am about to relate, the humerus of the left arm measures $8\frac{1}{2}$ inches, against $12\frac{1}{2}$ of its fellow. This very remarkable difference has resulted from an injury, followed by inflammation and ankylosis at the age of a year and a half. The injury is believed to have been slight, but it was followed by inflammation, and the arm was said to have been kept at rest for six months. Thus, there is no proof forthcoming that the epiphysis was detached. It is certain that the result has been bony ankylosis between humerus and scapula, and the remarkable dwarfing of the bone which I have mentioned. The arrest of growth has affected the scapula and clavicle as well as the humerus, but in them it has resulted in slenderness only, not in diminution of length. The whole clavicle is thin, certainly not more than two-thirds of the thickness of the other, and the long and slender acromion projects sharply over the shoulder. The humerus is slender as well as short, especially in its upper part, and the rotundity of its head is quite lost. There is no very obvious wasting in the lower part of its shaft, and the two elbows seem to be much alike. No difference that can be measured exists in the forearms or hands. The subject can do anything below

the elbow, and his power of moving the scapula is also remarkably great. The deltoid is, of course, quite atrophied. He can barely get the hand to touch his mouth, but can manage his fork well. He can put his hand behind his back, and fasten buttons, etc., though with some difficulty.

As the subject of the case is a young lad of only 16, who has not attained his full growth, it may be expected that a yet greater disparity in the lengths of the bones will be produced in the future.

The great slenderness of the clavicle and scapula must be attributed to the absence of motion at the joint and the atrophy of these muscles, and it well illustrates important physiological laws.

I have seen many examples of arrested growth in long bones owing to injury or disease of the epiphyses. No bone shows this arrest more definitely or more frequently than the humerus. To the growth of this bone, the upper epiphysis is of main importance, and its complete detachment is not very unfrequent. I remember two portraits showing arrest after injury in childhood, which were published some years ago in the *Guy's Hospital Reports*; one, I think, by Mr. Birkett, and the other by Mr. Bryant, and in both it was the humerus which was the bone affected. In neither of these nor in any other case with which I am acquainted, was the difference so great as in the case just described. As regards the degree of the arrest, everything, of course, depends upon the age at which the damage occurs. The younger the child, and the more severe the damage, the greater the arrest. Detachment of the upper epiphysis of the humerus occurs, in my experience, most often in boys from 10 to 15. At such ages the resulting arrest is usually but trifling. I can scarcely think it possible that any form of disease, apart from a complete reparation of the epiphysis, could have produced such shortening as here exists. It is to be observed that there is a clear tradition of an accident, though the details are not forthcoming, and it was at the early age of 18 months. I have only the youth's own account, and he, of course, remembers nothing. He has been told that his arm was seen both by Sir James Paget and myself, but I have no recollection of the case, and have failed to find any note.

Five Cases of Muscular and Vascular Anomalies.

Dr. HEUSTON read a paper before the Academy of Medicine in Ireland, on Five Muscular and Five Vascular Anomalies which occurred in the Carmichael College Dissecting Room during the session 1884-5. The first three muscular ones were examples of anomalous origin of the biceps. No. 1 presenting the usual triple origin of the muscle; No. 2 the triple origin with an insertion into the flexor carpi radialis and pronator radii teres, in addition to its normal insertion; No. 3 an example of quadruple origin, the internal additional head arising between the insertion of coraco-brachialis and the origin of the brachialis anticus, while the external (which was very well developed) arose from the insertion of the deltoid and adjacent portion of bone between the origins of the triceps and the brachialis anticus. No. 2 was noticed on account of the insertion being peculiar when taken in conjunction with the triple origin, while No. 3 was stated as having been before described only by Wood, the other authorities describing the quadruple muscle having noticed other origins than those described. No. 4 and

No. 5 were examples occurring in the right and left lower extremities of a female subject of the flexor accessorius longus digitorum, which was brought forward. In left extremity the muscle arose from the tibia, while, in the right extremity it arose from the fibula, thus presenting in the one subject examples of the different origins of the muscle, and also having no fourth tendon to the flexor brevis digitorum in either extremity. The vascular anomalies described were: No. 1, an example of the middle meningeal artery, arising from the ophthalmic within the orbit, and passing through the sphenoidal fissure, to be distributed as usual, while the foramen spinosum was absent on the left side, and on the right side was very badly marked, transmitting a minute artery which united with the abnormal vessel. No. 2 and No. 3 were examples of aberrant arteries, taking origin from the axillary and uniting with, in the case of No. 2, the radial artery, and in the case of No. 3 passing between the heads of the median artery, to unite with a normal radial recurrent artery. No. 4 was an example of a supra-scapular artery arising from the axillary artery which, having passed through the brachial plexus and under the transverse ligament, was distributed normally. No. 5 was an ulnar artery, which, rising at the usual place of division of the brachial, passed superficial to the muscles of the forearm to be distributed normally in the hand. In the forearm it gave off no important branch, while the ulnar recurrences, radial recurrent, comes nervi mediana, and inter-osseous, arose from a common trunk.

The president asked whether nervous supply of the additional heads of the biceps had been discovered.

Dr. Heuston replied that to the four heads the nervous supply was from the musculo-cutaneous nerve, and that it was particularly examined in the quadruple muscle.

Dr. Brooks asked if the muscle arising from the tibia was inserted into the long flexor tendons alone, or also into the accessorius. During the past session, in Trinity College dissecting-room, he had noticed a similar case in which the muscle was attached entirely to the flexor tendons, passing partly into the accessorius, but chiefly into the band connected with the longus pollicis. He was enabled to trace the tendon out into three divisions. Unlike Dr. Heuston's case, the fourth tendon of the flexor brevis digitorum was not absent, but was normal.

Dr. Heuston, in reply, said the muscle was inserted into the long flexor tendons and accessorius, chiefly into the latter; its deeper portion only passing to the tendons. The point, however, which he considered of interest was not the exact attachment, but the fact of finding the different origins for the muscle in the one subject, and also that the fourth tendon of the flexor brevis was absent.

The Process of Fatigue and Recovery.

The *Brit. Med. Jour.*, in its issue of July 25, says editorially: DR. WALLER'S research on the "Process of Fatigue and Recovery," published in this week's *Journal*, constitutes the report of his work during the past year in the investigation undertaken by him as holding a research-scholarship of the Scientific Grants Committee of the British Medical Association. The paper is, in substance, a summary and preliminary account of facts and data relating to some of the many questions in this department that require experimental answer, and contains results that are a distinct addition to our definite, as distinguished from our conjectural knowledge.

The conclusions reached by Dr. Waller concerning the part played by the motor end-plates in the process of fatigue, and in the allied process of degeneration, are of special interest and importance, and justify our acceptance of the generalization that the junction of nerve and muscle is a weak link in the chain, and is the first to suffer in its transmitting-function by poison, by excessive action, and by disorderly nutrition. We have, in short, under these last two conditions, an effect precisely similar to that which is brought about by the action of curare; and we see that an identical result—namely, the establishment of a block between nerve and muscle—can be produced by curare, by fatigue, and by degeneration; that is to say, by agents in the toxicological, in the physiological, and in the pathological domains; a generalization which is still further extended to include the changes which naturally occur at death. Dr. Waller's experiments on this last point are not advanced as being entirely conclusive. The problem here is to examine whether, in the dying organism, the excitability of nerve outlasts the excitability of muscle by stimuli applied to its nerve; and the only method by which this could be accomplished was by the observation of the "negative variation" as the index of excitation occurring in the nerve when it has ceased to have action on muscle. This method was followed, and instruments were devised for the purpose of recording the results. A complication, however, arises, owing to the development of electrotonic currents which might mask or be mistaken for the negative variation; and Dr. Waller promises to repeat these experiments with additional precautions. These experiments, relating to the motor end-plate, also go far to prove that it is an organ that can be fatigued; and, therefore, when called into action, a force-producing organ, and not merely a passive conductor, like nerve, as was held by Tschiriew. The last-named observer stated that fatigue by excitation of nerve runs a parallel course with fatigue by direct excitation. The present report contains, however, curves in which the fatigue-decline is more rapid for indirect than for direct excitation.

Another question of practical importance, which is broached in these experiments, is that of the principal site of fatigue, when normal voluntary action is sustained or repeated for long periods. It clearly results, from the experiments made by Dr. Waller on this point, that, when central nerve-cell, nerve-fibre, and muscle are together called into play in the accomplishment of repeated voluntary efforts, it is the central cell that is the weakest link in the chain; and that voluntary action grows weaker as fatigue increases—not because either muscle or nerve are becoming exhausted, but because the central motor is expending its power. Dynamometric observations show diminished voluntary power at a time when the excitation of nerve or muscle gives none of the ordinary signs of fatigue at the periphery; evidence of peripheral fatigue appears, indeed, to be obtainable with a difficulty which contrasts strongly with the ease and rapidity of the occurrence of voluntary fatigue. The bearing of these observations upon some of our guiding notions in medical practice is obvious, and appears at first sight to be out of harmony with the recent experiments of Zabłudowski and others, and the undoubtedly good effects of "massage," which can only be understood on the supposition that fatigue is, in part, peripheral. This is, however, not excluded by the above observations; an instance of peripheral fatigue by excessive central action is given in the case of strychnia acting on the spinal cord; and the

conclusion appears to be that the process of fatigue expresses itself at both ends of the nerve—more, however, at its central than at its peripheral end. Data are still wanting, however, before we may assign to each constituent of the nervous arc its share in the depression of function that results from expended activity. We know already, from the older experiments of Du Bois Reymond, and the more recent experiments of Wedenskii and of Bowditch, that the nerve proper has little or no share in the depression; that it does not expend force, but is merely a passive conductor; that it is, therefore, practically unsusceptible of fatigue. Bernstein's older experiments, on the course of fatigue and recovery in nerve, have been entirely supplanted by these modern experiments; and we now require a comparison of the process in the nerve-centre with that at the periphery, and not the comparison of muscle with nerve in this respect, seeing that the last-named organ is practically independent of functional fatigue and recovery.

Dr. Waller's report contains further an account of experiments showing that the effect of a poison, when it has added itself to the normal effect of which an organ is capable in response to excitation, can itself be dissipated in consequence of a series of excitations, and reaccumulated during an interval of repose, even if the organ be completely isolated from any fresh supply of the poison. Such phenomena are shown to occur in the case of the action of veratria upon muscle, and in that of strychnia upon the spinal cord; the veratria character disappears from muscle in consequence of repeated action, and returns during subsequent repose; the strychnia character disappears from the spinal cord in consequence of repeated action, and returns during repose. The analogy of these phenomena with each other and with the normal process of fatigue and recovery is complete; they differ only in the rapidity with which they are developed. The process in the cord is evidently of the same causation as the changes in excitability recently observed by Walton upon animals poisoned by strychnia, to the effect that the cord, after repeated excitations, regains its property of summing stimuli, and loses this property during subsequent repose.

The course of an intoxication has many points of resemblance with the course of fatigue; both are usually characterized by an initial increase, and subsequent decline of excitability; but the case of the action of strychnia upon the cord appears to be exceptional; the excitability is increased, even in advanced intoxication, in the presence of signs of muscular exhaustion. Under such conditions, however, a sign of fatigue is present in the form of the well known delay of reflex action, which increases as the toxic effects deepen, and is an index of a gradually increasing block of transmission in the cord. Dr. Waller reports experiments made in order to test the point of the nervous arc at which this block of transmission occurs, and has found that it does so at first exclusively, and later chiefly, at the junction of the afferent nerve with the spinal cord, for at first the time of reaction is prolonged in the absence of any retardation in the transmission of nervous impulses within the cord; and later, when such retardation does take place, it is small in comparison with the prolongation of the time of reaction.

The report concludes with some important observations upon the alteration of resistance which is caused in the human body during the passage of the galvanic current.

II. PHYSICS, BOTANY, CHEMISTRY, AND TOXICOLOGY.

An Asian Plant.

The *Chemist and Druggist* says that a plant, said to be called the "cup of life" by Turkomans, has received a passing notice from the *Times* correspondent of the Afghan Frontier Commission. He describes coming upon acres of what is popularly named "kalkelli," the plant having most lovely cups formed by the base of the leaves at two or three places round the stem.

These cups allow the stalk to pass through them, but close round in many shapes, and, according to the ripeness of the plant, take many colors, from the most delicate green to orange; while from one end of the rim of the cup springs a graceful dentellated spray of leafage. These cups catch and retain rain or dew, and must be a grateful sight to a weary traveller.

An Electric Plant.

A recent German publication contains a description of a new electric plant that has been christened *Phytolacca electrica*, which possesses strongly marked electro-magnetic properties. In breaking a twig the hand receives a shock that resembles the sensation produced by an induction coil. Experiments made on this plant showed that a small compass was affected by it at a distance of about twenty feet. On near approach the needle vibrated and finally began to revolve quite rapidly. The phenomenon was repeated in reverse order on receding from the plant. The energy of the influence varied with the time of day, being strongest at about two o'clock p. m., and becoming almost nothing during the night. It was also greatly increased in stormy weather; and when it rains the plant seems to wither. It is said that no birds or insects are ever seen on or about this plant. The soil where it grew contained no magnetic metal like iron, cobalt or nickel, and it is evident the plant itself possessed this electrical property.

How to Detect Salicylic Acid in Foods.

The *Western Druggist*, July 1885, says: One method consists in agitating the substance with ether, benzole or carbon disulphide, which takes up the salicylic acid and leaves it upon evaporation. Since these substances also act as solvents of the fats contained in most all foods, it is difficult to separate the latter in determining the acid present.

A better method is to distil the liquid for examination (in case of solids they may be digested with water and the expressed liquid distilled) and test the distillate with pure neutral ferric chloride; .005 of one per cent. of salicylic acid

may be detected in this manner by the violet color produced. The acid distills most readily from watery solutions not too dilute, and the distillate should be tested frequently.

Novel Clearing of Water Mains by Chemicals.

The *Scientific American* says that at Leipzig last year, the pipes experimented upon were those conveying water from the pumping-station to the town-reservoir. This main is about $15\frac{1}{2}$ inches in diameter, and two miles 1,444 yards long; and the incrustation was from $\frac{1}{2}$ to 1 inch thick, and in some places thicker. The operations lasted more than nine weeks, and during that period, at intervals, the pipe was filled with dilute hydrochloric acid eight times, with soda solution three times, and with a solution of chloride of lime once (being washed out thoroughly with water, between the successive applications). It is stated that the incrustation was entirely removed; the practical effect of the cleaning being indicated by pressure gauge—a decrease of from 1.8 to 2 atmospheres pressure at the pumps.

Nitrogenous Substances Insoluble in Gastric Juice.

A. STUTZER, in the *Zeit. Physiol. Chem.*, says that in almost all vegetables there are three groups of nitrogenous substances: one soluble in water, and represented by asparagine; the second, comprising albumen, dissolved by the hydrochloric acid pepsin of the stomach, and chemically distinguished from amides by forming insoluble compounds with copper hydroxide in neutral solutions; the third group being composed of all those nitrogenous substances which are not soluble in water or in acid pepsin. The last group was the one examined. Commercial cocoa-nut cake used as fodder by farmers was treated with pepsin and pancreatic extracts, and it was found that the latter in an alkaline solution had somewhat less action on proteids than acid pepsin. The author's observations lead him to believe that soda alone is quite as powerful a solvent of nitrogenous principles as when combined with pancreatic ferment.

Attempted Suicide by Drinking Petroleum.

The Paris correspondent of the *Brit. Med. Jour.*, July 18, writes that a patient was admitted into M. Duguet's wards at the Lariboisière Hospital who had attempted to commit suicide by drinking petroleum. She suffered from an intense burning sensation in the mouth, œsophagus, and stomach. She was very excited from the effect of pain and disappointment at having failed in her suicidal attempt; she exhaled a strong odour of petroleum. Two grammes of ipecacuanha, supplemented by several glasses of milk, provoked vomiting. The vomited matter was covered by a layer of petroleum, which presented the aspect of continuous grease-spots. After an enema was administered, she had a motion which presented the same peculiarity as the matter vomited, and also smelt strongly of petroleum. She continued to take large quantities of milk. She gradually recovered, and ate the ordinary fare. Small doses of quinine-sulphate cured the pains in her head, which had caused her much suffering, and in ten days she was convalescent. During four days, she exhaled an odour of petroleum.

Cryolite.

The *Commercial Inquirer* says that an interesting story comes to us from Greenland respecting the discovery and sale of cryolite, a mineral which is found in that country, and from which is extracted the bulk of the soda we use, as well as a good deal of alum. The natives of Greenland had long known of this deposit, which they described to the white men who saw it as "ice that wouldn't melt," a character which it bears every outward impress of deserving. It is a white color somewhat like that of ice which has been exposed some time, and is perfectly without taste or smell. No other mine is known in the world, although small deposits exist in the Ural Mountains and at Pike's Peak. It is worked by a Danish company, which pays a royalty to the government, and which sells two-thirds of the amount quarried to a Philadelphia company, the product being carried thither by McKay & Dix, of this city. The principal place where soda is manufactured from this mineral is at Natrona, in Western Pennsylvania, a village founded by men who intended to make this alkali from common salt. But after the introduction of cryolite it was found much easier to use that, and the place has since been the principal seat of this industry in America. The discovery was in 1855, and the amount imported last year was 8,000 tons.

A Case of Morphia Poisoning in a Child Aged Fifty Hours.

DR. WILLIAM JUDKINS, of Cincinnati, O., reports (*Med. Record*) a case of morphia poisoning in an infant aged *fifty hours*, where by mistake a quarter of a grain of morphia in solution was given. At the time the doctor was summoned, two hours after the first dose was taken (an eighth of a grain in a teaspoonful of water, for supposed colic; the first dose not having the desired effect it was repeated an hour afterward), the child was cyanotic, breathing only three times to the minute, and that very feeble; pulse barely perceptible. Immersions in hot water were at once commenced, and whiskey hypodermatically, in the gastrocnemius. Strong black coffee was also administered per orem and anus. After two hours' constant work, respirations increased in frequency and the heart's action became stronger. Recovery was final, and now, ten weeks after the accident, the child is as well and bright as could be wished. The catheter had to be used several times the first twenty-four hours, and three abscesses were opened that were produced by the frequent introduction of the hypodermic needle. The doctor states that he has been unable to find a similar case on record.

Toxic and Narcotic Properties of Oil of Sassafras.

The *Therapeutic Gazette*, August 15, says: The public and the profession are at variance respecting the medicinal virtues of sassafras, the former esteeming the root highly for its supposed capacity to "purify the blood," while the therapist has little, if any, faith in it. The French and American pharmacopœias carry the drug still on their list, though its practical utilization is almost naught. It has been alleged, however, that two drops of the essential oil of sassafras mixed with smoking tobacco eliminate its toxic properties and protect the tentative young smoker from the otherwise inevitable protests of nature. DR. HILL

has given this matter his special attention (*La Presse Médicale Belge*, No. 10, 1885) without finding this supposition verified.

Experimenting further with the essential oil of sassafras, Hill soon gained the conviction that the drug, far from being an inert body, gave unerring testimony of being a powerfully toxic drug. This result was reached by numerous experiments on dogs, cats, and mice, and corroborated by a case of poisoning, through the oil, occurring in a man. It is to be regretted that Hill's researches were too general in character to make out, or at least suggest, a practical therapeutic utility for the medicine.

Extraction of Perfumes by Carbon Bisulphide.

The *Popular Science News* for August, says that the bisulphide of carbon, a very volatile, colorless liquid of most offensive smell, readily dissolves the essential oils of flowers, to which they owe their agreeable odor. One process for obtaining perfumes is to fill a large phial with petals, just gathered, of the flower to be operated upon, and, having poured upon them a sufficient quantity of the bisulphide, to cork the phial, shake it, and let it stand. The bisulphide penetrates into the substance of the petals, and expels the water they contain, which goes to the bottom. After six days' maceration, the bisulphide, charged with the essential oil of the flowers, is decanted into another phial containing fresh flowers; and this operation is repeated four times, after which, if the quantity of flowers is considerable, the liquid will be highly colored. It is now necessary to separate the bisulphide from the perfume. If the quantity be small, it may be left in the open air, by which the volatile bisulphide will soon be evaporated; and the residue is then to be treated with alcohol having the strength of about eighty-three per cent. This process can be performed by any farmer's daughter: but, when the amount to be made is very large, the oil of almonds should be added to the saturated bisulphide, and the whole distilled at a very low temperature, so as to save the bisulphide; the residue being treated with alcohol, as before described.

The Flora of Bank Notes and Coin.

Science and Nature, a French journal, has published an article entitled "The Flora of Bank Notes," from which it appears that bank notes are more or less covered with animalculæ, as well as coin, which latter fact has already been advanced to the world. From the article in *Science and Nature*, we learn that Mr. Jules Schaarschmidt has followed out the investigations of M. Reinsch, who found, with the aid of the microscope, that two species of algæ adhere frequently to coin. Schaarschmidt has examined bank notes, and found the paper currency of various countries furnishes an abundant cryptogamic vegetation, as well as microbes.

Nature, commenting on the subject, remarks: "There is obviously a very serious side to all this, however, if further researches prove that, as appears possible, our most minute and dreaded enemies are always in our midst on such apparently welcome visitants as coin and bank notes, money will have earned a worse name even than it has heretofore. *En revanche*, there are two points which no doubt will be insisted on. In the first place, the observers named have not so far described

any organism on the money investigated which is known to be inimical to us; and secondly, precautions have been taken from time immemorial against the transmission of currency passing from a plague-stricken community to a healthy one. Possibly the facts derived from these observations will be made use of to bring more forcibly before the minds of our less careful brethren the dangers of handling 'filthy lucre' in times of disease."

Albumen in the Saliva and Bile of Albuminuric Patients.

The *London Med. Record* says that Professor SEMMOLA holds that the presence of albumen in the saliva and bile of patients suffering from chronic Bright's disease (in other forms of albuminuria it is not found) proves that the renal lesions are not primary, but secondary to the progressive enfeeblement of the respiratory function of the skin produced by the prolonged influence of damp cold. Dessales finds that, as Hoppe-Seyler showed, coagulable albumen is almost constantly present in the saliva, and that there are even normally great variations in the daily quantity of albumen in the saliva (Stokvis). He was careful, in his own researches, to examine the saliva for blood-corpuscles, so as not to fall into the error of attributing to the saliva albumen due to the presence of blood from aphthous patches of the gums. In nephritis, he found albumen either absent or only in very slight traces in the saliva; in the bile it was sometimes present, sometimes absent. In other diseases (as paralysis agitans), the saliva contained considerable quantities of albumen. He concludes that in chronic Bright's disease there is no elimination of albumen by the saliva and bile, and that in Professor Semmola's cases the albumen in the saliva was due to his employment of hypodermic injections of pilocarpine; and he quotes Vulpian, who says that after these injections the saliva becomes richer in albuminoid substances coagulable by nitric acid. He also gives three cases of his own, one suffering from nephritis and two healthy subjects, in all of whom, after hypodermic injection of pilocarpine, a large quantity of albumen was found in the saliva, though none was to be found before the injection.

Some of the Chemistry of Cholera.

The *Lancet* tells us that an investigation of the changes which epidemic cholera produces in the bile and alvine dejecta, has been conducted by M. GABRIEL POUCHET. The author has made six analyses of bile collected from the gall-bladder very soon after death from cholera. A large proportion of albumen was found in the gelatinous fluid. The albumen forms, with the mucin, the greater part of the residue resulting from evaporation. The bile was very watery. In every case the presence of leucin, tyrosin, glucose, and fatty globules mixed with fatty acid and cholesterine, was detected. After separation of the albuminoid matter by strong alcohol, the colorless liquids precipitated by acetic acid become slowly colored of a brownish-green. The precipitate produced by acetic acid is formed of cholic and choloidic acids and dyslysin, which shows that a decomposition of biliary salts may take place in the gall-bladder. The alvine excreta were almost colorless, very watery, and contained a considerable proportion of urea and chloride of sodium. The vomit frequently contained the elements of

bile. Ptomaine extracted by exhaustion with chloroform presented itself as a colorless liquid having the characteristic odor of pyridic bases, oxidizing in air and light with great rapidity, and acquiring at first a rose color, and afterwards a brown. A marked alkaline reaction is given, it forms a chlor-hydrate which is easily dissociated by elevation of temperature or in a vacuum. Attempts to purify the alkaloid were made, but the purified product had but little toxic effect when injected under the skin of guinea-pigs, though the original alkaloid killed a frog in less than two hours.

New Reaction for Digitaline.

The *Lancet*, July 4th, says: The difficulty of distinguishing by chemical methods between various alkaloids has always been very great. This difficulty, where forensic matters are concerned, necessitates in many cases the employment of vivisection in order to subserve the ends of justice. Digitaline may be certainly recognized chemically by the following method, according to M. LAFON: If a trace of digitaline be treated with a mixture of sulphuric acid and alcohol, of each one part, and if to this mixture a drop of ferric perchloride be added, a beautiful greenish-blue coloration is developed, which lasts for several hours. The most favorable conditions for the reaction are the following: Use a very small quantity of digitaline; dry the substance with a very small quantity of the mixture of sulphuric acid and alcohol, and warm slightly until a yellowish tint appears; then add the drop of ferric perchloride, which should be allowed to spread out. This reaction is peculiar to digitaline, for M. Lafon has tested the whole of the alkaloids and glucosides usually employed in therapeutics. Morphine produces with ferric perchloride the blue color, but this only occurs where the reagents are neutral. Digitaline prepared at Darmstadt by Merck, neither in its crystalline nor in its powdered condition, gave the above reaction; so that there is a marked difference between some German digitalines and the French alkaloids, a difference which is said to be shown in the varying solubility of the alkaloids as well as by the physiological effects. Chloroform dissolves but little of the German alkaloids. MM. Laborde and Duquesnel have recently pointed out the different physiological effects of digitaline according to the source of the alkaloid.

Fatal Poisoning by White Precipitate.

Dr. E. HEAD MOORE thus writes in the *Brit. Med. Jour.*, July 4th, 1885: Poisoning by white precipitate (ammonio-chloride of mercury) being comparatively rare, I forward the following brief notes of a case recently under my care. The patient was a baker, aged 52, formerly of intemperate habits. For several months, until June 5th, he had been a total abstainer. On that day, I delivered his wife of a still-born child. During his wife's confinement to bed, he resumed his old habits, consuming large quantities of gin daily, and keeping himself more or less constantly under the influence of liquor. At 7:30 on Sunday morning, June 21st, I was called to see him, and found him in bed in great pain, vomiting blood freely, with cold clammy perspiration; soft, feeble, but rapid pulse; bloody stools, and anxious expression. On search being made, a wine-glass was found containing a few grains of white powder, and a paper labeled "precipitate-powder

—poison.” He stated that he had also taken “some acid he had for his battery,” which I found to be sulphuric acid; but he had taken only a few drops of the latter in water, and there were no signs of acid about the lips or mouth.

The treatment consisted in frequent doses of white of egg, which was generally quickly vomited, and doses of five minims of tinctura opii with ten minims of tinctura hamamelis, every quarter of an hour, which appeared to allay both the pain and vomiting. However, he never rallied, and died at 12:20, about five hours after taking the poison. None of the specific effects of mercury were present, the symptoms being purely those of irritant poisoning. On inquiry at the druggist's I ascertained that the packet contained forty grains of white precipitate; and, as the wife informed me that none of it had been used, I concluded he must have taken that quantity, *minus* only the few grains left in the glass.

Poisonous Alkaloids in the Urine.

The *Brit. Med. Jour.*, July 4, 1885, says that M. CHANTEMESSE has summarized the history of this subject in an article, of which the following is an abstract:

Professor Bouchard has drawn attention to the poisonous character of normal urine. This fact has been often previously asserted, its various constituents, from urea to potash-salts, being incriminated. In 1880, Pouchet found an alkaloidal substance in urine. Bouchard has lately proved that alkaloids normally exist in the bodies of living animals. They are formed in the intestine by the action of the vegetable organisms, which effect the intestinal putrefactive and fermentative processes. These alkaloids are absorbed into the blood, and appear in part in the urine.

The following physiological effects are stated by Bouchard to follow the injection of urine into the veins of a rabbit: contraction of pupils, slow respiration, muscular weakness, lowered temperature, abolition of reflexes, and torpor followed by death, which takes place by arrest of the respiration. Having established the poisonous character of urine, he sought next to determine the particular constituent to which this effect is due. He found that it required much more urea to kill an animal than was contained in a poisonous dose of urine. Uric acid was nearly harmless, as were the extractive matters, while the potash-salts, though undoubtedly poisonous, were not so in the small quantities contained in the urine injected. After decolorizing with animal charcoal, the urine lost half its toxic power. The poison is not volatile, for it resists boiling and is equally present in extracts of urine as in urine itself. Extract of urine acted peculiarly; it did not cause contraction of the pupils, but produced salivation. This alkaloid substance which produces salivation is met with also in muscle, liver, and blood. In normal urine its proportion is very small.

Lépine and Guérin have shown that these alkaloidal bodies are increased in various acute diseases, such as typhoid fever and pneumonia; but they have failed to find any increase in the urine of diabetes, catarrhal jaundice, cirrhosis with jaundice, alcoholic cirrhosis with jaundice, in the fluid withdrawn from the pleura and peritoneum of the last case after death, and also from the body of a patient dead of Addison's disease, or in the peritoneal fluid drawn off during life from a case of chronic peritonitis. The alkaloid found in the urine of typhoid fever stopped the heart in diastole, while that of pneumonia stopped it in systole.

Poisoning of an Infant through the Milk of its Mother.

The *London Med. Times*, July 11th, tells us that Prof. BROUARDEL has recently (*Revue de Thérapeutique*, July 1) communicated the following interesting case to the Society of Legal Medicine. A man was charged with poisoning, by means of arsenic, his wife and his infant, whom she was then suckling. The child had died with the symptoms of cholera some days after its mother had herself manifested analogous symptoms. As this occurred during hot weather, the occurrence did not arouse suspicion until November, when the woman and her mother, who lived with her (and whose money the man was charged with endeavoring to obtain by forgery), were both attacked with choleraform symptoms. A paper containing white arsenic was also found in the pocket of the accused. As the death of the infant was now canvassed, Prof. Brouardel caused its coffin to be brought to Paris about six months after its burial. The body having been entirely converted into fatty matter, so that isolation of the viscera was impossible, it was submitted to analysis *en bloc*. Weighing about two-and-a-half kilogrammes, it yielded five milligrammes of arsenic, which certainly did not proceed from the linen in which the body was wrapped, or the soil by which the coffin was surrounded. The question now arose, whether the arsenic was eliminated by the mother's milk; and as the possibility of this had never been sufficiently investigated, Dr. Pouchet undertook some very conclusive experiments. He administered to some of the nursing mothers in the St. Louis Hospital, who had diseases of the skin, from six to twelve drops of Fowler's solution, and found that their milk always exhibited a relatively considerable quantity of arsenic. For example, the milk of a nurse who had taken eight milligrammes of arsenic for six days, was found to contain one milligramme in 100 grammes of milk. In such doses neither the nurses or the infants exhibited any symptoms. But it does not follow that the same results would have followed had the arsenic been exhibited in a single considerable dose. The endeavor to ascertain this by experiment on sucking animals did not furnish any conclusive results, owing to the great difference in susceptibility to the action of arsenic, so that no conclusion obtained could be applied to the human subject. At all events these investigations show that the lacteal secretion is a predilectory channel of elimination for arsenic, and that it is imprudent to administer it to nursing women. The man was sentenced to 20 years hard labor.

The Application of the Electric Light in Micro-Biological and Micro-Photographic Work.

The *London Med. Record* says: In the *Gaceta Médica Catalana* of February 15, is an article on this subject by D. RICARDO BOTEY. His attention was first directed to this application of the incandescent light by a paper in *La Lumière Electrique* of Oct. 25, 1884, by Ch. Stein; and he has so far improved and simplified the arrangement that he finds two or three Bunsen couples and a Swan lamp of two or three volts ample for all purposes. Dispensing with reflection of any kind, he uses a lamp about $1\frac{1}{4}$ inch long and $\frac{7}{8}$ inch in its widest transverse diameter, one side of which is silvered so as to form a convex mirror, having the luminous arc in its focus, and consequently reflecting the light in parallel rays. For ordinary work the lamp is fixed beneath the stage of the microscope, either

in a frame specially constructed, or, by what answers just as well, a piece of twisted copper wire clasping the stem of the instrument, and with a loop at the other end in which the lamp may rest.

For the examination of opaque bodies, the lamp is attached by a hinge arm to the tube of the microscope, after the manner of a bull's eye.

If very intense illumination be desired, another cell and a lamp of five or six volts would be useful; but equal effects may be obtained with the smaller lamp by using one of Abbé's or Dujardin's condensers.

If a Grenet's or Trouvé's cell be preferred to one of Grove's, the solution is prepared by dissolving 500 grains of potassic bichromate in 2,000 of water, and adding, after gentle agitation, 600 of sulphuric acid.

The electric light, besides being of a purer white, is less hurtful optically and chemically to the eye than any other kind; but the special advantage of the arrangement devised by Botey is that, the lamp being attached to the movable portion of the microscope, the light once adjusted retains its position in regard to the object, at whatever inclination the instrument be put.

For micro-photography Botey finds this lamp especially well suited. He recommends the dry plates of gelatino-bromide of silver, which preserve their sensibility unimpaired for many months, with ferrous sulphate and potassium oxalate baths for developing and fixing the image.

The duration of exposure requires some judgment; if too short, the finer details are lost; if too long, lights and shades are confused. As a rule, for low powers (20 to 100 diameters) ten to fifteen seconds is sufficient; for higher, twenty seconds to five minutes may be necessary. But once the time required for a given power and luminous intensity has been found, no change is needed for further subsequent operations.

With the lamp we have described, and three, or at most four, elements and a small camera, which need not be expensive, it is perfectly easy to obtain excellent photographs of such objects as the *bacillus anthracis* or the *peronospora Ferrarii*.

Medicinal Plants in Brazil.

From the *Western Druggist* we learn that Consul WRIGHT, of Santos, Brazil, incloses in a letter to the State Department notes upon the medicinal plants of that country. The compilation is the work of S. S. Schindler, a native-born citizen of the United States, who is now in Brazil. From Mr. Schindler's notes it appears that the country abounds in herbal remedies, and that alvelos, the new cancer cure, is but one of hundreds of plants or trees possessing properties of great value, as yet almost unknown to *materia medica*.

Alvelos is a shrub, Mr. Schindler writes, discovered by an eminent French physician of Pernambuco to be a specific for cancerous ulcers. The juice is a powerful caustic. Applied to cancer, it produces an irritating effect, which increases to a strong inflammation, and at length cicatrization takes place. The manner of application is this: A camel's hair brush is dipped in the juice, which is applied to the cancer and allowed to dry. Twenty-four hours afterward a little lint dipped in water is applied to the cancer, and in another twenty-four hours the juice of alvelos is tried again. Dr. Veloso advises for a speedy cure

the application of the juice every day, using an infusion of tobacco instead of the arnica and water. This course of treatment is more rapid. The inflammation is much stronger, but can be regulated by the physician according to the nature of the cancer and its proximity to the vital organs. Mr. Schindler says that the alvelos treatment has proven successful in every case of cancer of the lips, tongue, nose, and breasts, where it has been tried.

Baycurn, Mr. Schindler says, is a curious plant of Brazil, which buries itself in the sand, a number of leaves rising above, seven inches long and two inches wide. The flowers resemble a saxifrage. The whole plant is sometimes for days together covered by the sea. The root is six to seven inches long, one inch thick, and tortuous shape. Externally it is chocolate-brown; internally, flesh-colored. It is an unfailing remedy in all kinds of enlargement, and glandular swellings.

The juice of the fruit of the cajueiro² tree is one of the most powerful blood purifiers known.

A decoction from the bark of the root of the calunga shrub is a remedy for dyspepsia and intermittent fevers.

The leaves of the camapa plant contain a narcotic principle, and the juice of the root and fruit is found excellent for rheumatism and liver diseases.

Boiled fruit of the arvoredo pao tree makes a powerful poultice for ulcers.

The fruit of the cabacinho has an admirable effect upon dropsy.

The most stubborn coughs yield to a tea made from leaves of the malavrisco shrubs.

Papaw has been found to possess the property of destroying the false membranes of croup and diphtheria.

Papaine is another diphtheria cure.

Poracary is a sure antidote for bites of poisonous snakes.

Sepucareira bark makes a decoction which seems to be nature's remedy for kidney ailments.

There are no less than 312 plants or trees in Brazil which possess strong medicinal properties. Mr. Schindler's catalogue of them contains a remedy for every ill known to human flesh, and the wonder inspired in the reader is that people should ever die in that country.

Report of a Case of Acute Arsenical Poisoning.

Dr. S. M. WARD thus writes in the *Therapeutic Gazette*, August 15: I did not see this patient until about two hours before her death. The attending physician, Dr. J. J. Ward, furnished me his notes, and to him I am also indebted for the history, the patient having been under his charge at different times for the past three years. L. M., a young woman of 27, has suffered for many years with occasional attacks of melancholia, probably produced by her not being "in harmony with her environment" and menstrual irregularities. For the past eight weeks she had been attending a business college, intending to become a book-keeper. She became somewhat discouraged, and on June 14 returned to her home and resumed her place as housekeeper for her father. The latter, who is a man of keen observation, noticed that she was becoming melancholy again, and endeavored to cheer and comfort her, but to little purpose. Neither at this time

nor at any other had she discussed the question of suicide at home or among her acquaintances. On the forenoon of June 15 she told her father that she was not feeling well, and would go to her room and lie down. At ten o'clock (a. m.), according to her story, she swallowed a half-teaspoonful of commercial arsenic dissolved in water (thirty grains). She then disrobed and lay down. This arsenic had been in the house some seven or eight years, having been purchased to kill rats. She and her father had often noted the fact of its being in the house, and had often discussed the advisability of throwing it away, but not of late.

At 11:30, an hour and a half after taking the drug, if her statement is correct, she vomited and again lay down. At noon her father knocked at her door, and was told that she was not well,—was no better. During the afternoon she vomited several times, and her bowels moved once very copiously, the matter being very offensive. The time could not be definitely ascertained, but was probably near four o'clock. She vomited again, and her bowels moved again—matter colorless and odorless—before 5:15, at which time her father entered her room. Noticing evidence of a sudden illness he made some inquiries, and was told that she had taken the arsenic, as above stated; that she was "tired of living," and "wanted to die." Dr. J. J. Ward was called. He found her suffering some pain in the epigastrium, thirsty; there was suppression of urine, diarrhoea as noted, and some vomiting; her mind was clear, respirations normal, and pulse very rapid. The usual remedies were employed and opiates cautiously exhibited. The doctor remained with her until nine o'clock. When he left there was less pain, occasional vomiting; the matter ejected at one time looked as if it contained some of the mucous coating of the stomach, but for the most part was watery or "bilious;" a movement of the bowels, still odorless and colorless (once tinged with the iron that had been given), occurred once an hour, or thereabouts; respirations normal, mind clear, and pulse weak and fast. Alcoholic stimulants were given in milk, and the other treatment continued. Small doses of opiates p. r. n. She was next seen at 6 a. m., June 16. During the night there had been but little vomiting or diarrhoea, pain less, respirations still normal, but pulse hardly discernible at the wrists, hands and face cold, somewhat cyanosed, and the latter slightly covered with a cold sweat; mind clear. She was seen again at 8 a. m. Pain was now more pronounced, and she was given hypodermically sulphate of morphia, gr. $\frac{1}{2}$, sulph. atropia, gr. $\frac{1}{16}$. Stimulants pushed. The reporter of the case saw her at 10:15, when her condition was about the same, except that pain was absent. Hot applications and sinapisms, atropine and whiskey hypodermically, were continued. Gradually her heart beat less and less steadily, the cyanosis increased, and she died at noon, without a struggle.

My object in reporting this case is to place on record a case of undoubted arsenical poisoning which exhibited symptoms somewhat puzzling, taken without the testimony of the patient. It seems as if the poison, from the beginning, had spent its force on the organs of circulation, and that the state of collapse was not due to exhaustive discharges from stomach or bowels. This, to me at least, is a new effect of arsenic.

III. MATERIA MEDICA AND THERAPEUTICS.

Hydrochlorate of Cocaine in Hay-Fever.

Dr. J. WESTON BULL thus writes in the *Brit. Med. Jour.*, July 4, 1885: The eye does not seem to be protected against the irritating action of the pollen-grain by two or three drops of a 2 per cent. solution of hydrochlorate of cocaine, though the inflammation and itching, arising from the swelling and bursting of the grain, are allayed and removed by its use.

I am trying stronger solutions. The violent sneezing and swelling of the mucous membrane of the nose, arising from the same cause, are removed by a few drops of a 1 per cent. solution, sniffed off a camel's-hair brush; so that, up to the present, I have been comparatively free from nose-symptoms.

Probably, the only way to ascertain the exact prophylactic effect, if any, of the cocaine, is to procure pollen which has a known irritating effect on the experimenter's conjunctiva, and to try its action on both eyes, having previously inserted solutions of varying strength into one of them; and these experiments I hope to carry out.

Apparently, as was anticipated, cocaine is at present our best topical application in the treatment of this distressing complaint, though I found vaseline of great service last hay-season for the nose. It certainly alleviates, and may be found prophylactic. The only other effect on the eye is a slight smarting, soon wearing off, and a little dilatation of the pupil, lasting about twelve hours. I hope that some others may contribute their personal experience of its use in hay-fever.

Resorcin in Malignant New Growths.

In the *Russkaia Meditzina*, No. 6, 1885, p. 121, Dr. G. J. Gatchkovsky, of Rybinsk, details four cases of cancer-like new growths, in which he, following the instance of Dr. Mannino (*Zeitschr. für Therapie*, No. 12, 1883, p. 132), applied locally resorcin, either in substance or in the shape of a 50 per cent. vaseline ointment. In two cases of what seemed to be epithelioma of the lower lip, complete cicatrization followed after eight and five weeks' treatment; in one of them there was no return up to the date of the article (thirteen months have elapsed); but in the second case, by the end of two months the cicatricial tissue became exulcerated, and lancinating pain reappeared; the ulcer again healed under resorcin treatment of three weeks' duration. A third patient, a woman aged 56, presented a malignant tumor of the anal margin, as large as a hazel-nut, and diffuse cartilaginous infiltration of the lower part of the rectum. The tumor entirely disappeared after fifteen days' powdering, twice a day, with resorcin; subsequently, daily rectal suppositories with 20 grains of resorcin were administered, but unfortunately the patient soon left the town, and thus was lost out of

sight. A fourth patient, a woman aged 45, was admitted to the hospital about a month before her death, with advanced cancerous destruction of the whole right half of the tongue, and with induration of the submaxillary lymphatic glands. Powdering (twice daily) with resorcin rapidly removed the offensive odor and hæmorrhagic tendency, and also greatly improved the general state of the ulcer.

An Antiseptic Ointment.

Dr. M. B. WARD, of Topeka, Kan., sends to the *Med. Record*, July 18, the formula of an antiseptic ointment which he found very useful while in charge of the hospital department of the Mexican Central Railway. It consists of iodoform, ʒj.; subnitrate of bismuth, ʒvij.; vaseline, ʒij. This formula was not strictly adhered to in all cases, but was varied according to individual indications. Another formula, suggested by Dr. J. W. THAYER, was iodoform, ʒj.; boracic acid, ʒij.; subnitrate of bismuth, ʒiv.; vaseline, ʒij. The ointment was spread upon a sheet of absorbent cotton sufficiently large to cover the wound and a considerable extent of surface around it. "The dressing seemed to be the best suited to the after-treatment of amputation wounds. It could be removed when necessary with the greatest facility, as it never adhered to the wounded surface. I usually allowed the first dressing to remain undisturbed for from four to six days. There never was present, even in the warm climate of Mexico, the least disagreeable odor, so common when carbolic dressings are used." This dressing was used in over four hundred cases of injuries of various kinds, including ten gunshot wounds and numerous amputations and other capital operations, and of this number there were but two deaths. The writer adds that Dr. J. W. Thayer, of Chihuahua, Mexico, will be pleased to give a detailed account of the results obtained by this method of dressing to any one wishing the same, as he is in possession of the clinical records.

Lactic Acid as an Escharotic.

The *London Med. Record* tell us that Professor von MOSETIG-MOORHOF recently called attention to the value of lactic acid, hitherto used only in the treatment of dyspepsia, and for the solution of false membranes, as a local application in lupus, and in superficial epitheliomata and papillomatous growths. Dr. Lurtz now publishes (*Wiener Med. Blätter*, No. 19, 1885,) the results of the treatment of a number of cases of lupus by a plaster composed of equal parts of glacial lactic acid and powdered silicic acid, spread on gutta-percha tissue, and covered by a layer of wadding. Several of the cases were of one or two years' duration, and one had recurred three times after extirpation with the knife. The paste was applied to the parts previously well washed, and retained *in situ* for twenty-four hours, the application being repeated three or four times at intervals of several days in some cases, but in others only once and followed by iodoform vaseline. A sensation of burning, but by no means intolerable, was felt for about an hour. In all, healing followed speedily, a smooth cicatrix being left at the end of three or four weeks, and no return of the disease appearing after six to nine months' observation. The advantage presented by lactic acid over other caustics is that it attacks only the unhealthy tissues, leaving not only the underlying

healthy structures but even the bridges and islands of sound skin intact. It is true that Hebra's modification of Cosme's arsenical paste acts in much the same way; but it causes intense pain, and occasionally symptoms of poisoning, from both of which objections lactic acid is free, and the resulting cicatrices are far less unsightly.

Cholera Mixtures.

From the *Cronica Medica*, we learn that the following cholera mixtures are now in use in Spain and Southern France:

Elixir de Java de Favre.—Ether, 4 grammes; laudanum (Sydenham's), 2 grammes; orange flower water, 10 grammes. Dose according to case.

Dargelos Mixture.—Sulphuric ether, 20 grammes; Sydenham's laudnaum, 20 grammes; tincture of peppermint and honey, each 15 grammes. Dose as indicated.

Lereboullet's Anti-Diarrhœa Potion.—Tincture valerinated ether, 10 grammes; Sydenham's laudanum and tincture of honey, each 6 grammes; essence of peppermint, 10 drops. Filter and shake before using.

Anti-Cholera Elixir of Almeda Acerido.—Cardamom seeds and angelica root, each 12 grammes; calamus, cannella and chamomile, each 8 grammes; socotrine aloes and camphor, 7 grammes; myrrh, 4 grammes; nutmegs, 6 centigrammes; saffron, 15 centigrammes; brandy, 800 grammes. Macerate for seven days, shake and decant. Dose as indicated. Famous Spanish so-called specific against cholera.

Tardieu's Elixir.—Alcohol, 40 centilil.; Sydenham's laudanum, 12 grammes; sugar, 200 grammes; distilled water, 61 grammes; essence of peppermint 12 drops. Mix. Dose as indicated.

Anti-Diarrhœic Mixture of Wunderlich.—Tincture of opium, 1 gramme; wine of ipecac, 3 grammes; tincture of valerianated ether, 20 grammes; essence of peppermint, 15 centigrammes.

Hanck's Cholera Mixture.—Tincture of opium, aromatic valerian and peppermint, each 10 grammes. Mix.

Anti-Diarrhœic Mixture of Canes.—Ether, 1 gramme; laudanum, 20 drops; extract rhatany, 1 gramme; syrup of bitter orange peel, 30 grammes; honey water, 120 grammes.

Desprez Cholera Lotion.—Chloroform, 1 gramme; alcohol, 8 grammes; acetate ammonia, 10 grammes; water 110 grammes; chlorhydrate of morphia, diluted, 40 grammes. Mix. Dose as needed.

Strophanthin, the New Diuretic.

The *Brit. Med. Jour.*, August 8, says that Professor FRASER's paper on *Strophanthus hispidus*, read in the Section of Pharmacology and Therapeutics, at the meeting of the Association at Cardiff, places us in the possession of a new and valuable heart-remedy and diuretic. It appears that the drug is extensively used in many parts of Africa as an arrow poison. In the Mangauga district, near the Zambesi, it is called "kombé," whilst in Senegambia and Guinea, the name "Inée" is more commonly employed. Dr. Livingstone, in his *Narrative of an Expedition to the Zambesi*, refers to this poison, and says the arrows are usually

made in two parts. "An iron barb is firmly fastened to one end of a small wand of wood, 10 inches or a foot long, the other end of which, fined down to a long point, is nicely fitted, though not otherwise secured, in the hollow of the reed which forms the arrow-shaft. The wood immediately below the iron head is smeared with the poison. When the arrow is shot into an animal, the reed either falls to the ground at once, or is very soon brushed off by the bushes, but the iron barb and poisoned upper part of the wood remain in the wound. If made in one piece, the arrow would often be torn out, head and all, by the long shaft catching in the underwood, and striking against trees." The plant which yields the poison belongs to the Apocynaceæ, and has been described and figured by Professor Oliver, of Kew, under the name of *Strophanthus Kombé*. It is a woody climber, and flowers in October and November. The follicles vary in length from 10 to 12 inches, and contain from 150 to 200 seeds, each weighing about half a grain, and bearing a beautiful plumose tuft, placed at the extremity of a delicate stalk. They contain no alkaloid, but are rich in an active principle, which Dr. Fraser calls "strophanthin." This is a crystalline substance of intense activity, which seems destined to play an active part in our list of heart-remedies. In physiological action it is allied to digitalin and other members of the digitalis group. It has been used, both experimentally on animals, and clinically in the wards, at the Infirmary at Edinburgh. The dose for hypodermic use is from one one-hundred-and-twentieth to one-sixtieth of a grain. In the discussion which followed the reading of Dr. Fraser's paper, Dr. Murrell pointed out that the introduction of strophanthin would serve to commemorate, in a way which would otherwise be impossible, the centenary of the publication of Withering's classical work on *The Foxglove and some of its Medical Uses*.

Oleate of Manganese.

C. E. KREYSSLER, Ph. G., thus writes in the *Am. Jour. of Pharmacy* for August:

Drs. Martin and McArthur having suggested the use of Oleate of Manganese as a menstrual stimulant, and as a remedy in functional amenorrhœa, menorrhagia and metrorrhagia, and not being able to obtain the same, requested me to make an attempt to prepare it, which I did, in the following manner, by acting on a solution of the sulphate of manganese, with a solution of sodium oleate: The powdered and dry Castile soap being considered a sufficiently pure sodium oleate, was used in making the solution; this solution was then gradually, and with constant stirring, added to the solution of the sulphate of manganese, at once precipitating a granular-appearing substance, being the oleate of manganese, which, on being slightly heated, suddenly changed to a sticky mass, having the consistency of putty, and this being washed several times with warm distilled water, to free it from the sulphate of soda, resulted in a hard substance having a light gray, slightly pinkish color, of a sweet musty taste, and peculiar odor, being sparingly soluble in alcohol, but soluble in ether, chloroform, olive oil and oleic acid.

To test this oleate a portion of it was oxidized on a platinum foil, and a fragment of caustic potash and same quantity of chlorate of potassium added, and held in a blowpipe flame until the fused mixture had become dark green, or the color of manganate of potassium, and on adding water to this, and boiling for a

short time, it produced the solution of permanganate of potash, having the usual purple color.

The method of applying this oleate is as follows: About one teaspoonful of the 20 per cent. solution of the oleate is applied to the abdomen of the patient, and absorption promoted by friction, produced by vigorous rubbing of the surface with the palm of the hand, or fingers, continuing the rubbing until absorbed; it may also be applied to the spine, or inner surface of the thighs.

Dr. Martin recommends the application of the same in amenorrhœa, if possible, every night for a week preceding the expected menstrual period, or at the time the menstruation is due, and until it makes its appearance, and in menorrhagia or metrorrhagia in smaller quantities, every night until the desired effect is produced.

Permanganate of potash in pill form has been used for the same purposes, without any noticeable effect, and was very objectionable to many, on account of the liability to act as an irritant to the stomach. The binocide of manganese has also been used, without effect, on account of its insolubility.

This oleate is highly recommended by Drs. Martin, McArthur, and others, who have used it in their practice, and I would like to encourage others to give this valuable remedy a good and faithful trial.

Osmic Acid in Peripheral Neuralgias.

Dr. GEORGE W. JACOBY contributes an article on this subject to the *N. Y. Med. Jour.*, August 1st, which thus concludes:

My cases, eighteen in all, have been tabulated as follows:

No.	Sex, age, etc.	Disease.	Total no. of injections.	Result.
1	Male, 26 y.	Right sciatica, old case.	16	Cure.
2	Male, 48 y.	Right sciatica, old case.	20	Cure.
3	Female, 50 y.	Left trigeminal, three years' stand'g.	3	Improved but gave up treatm't.
4	Female, 35 y.	Left crural neuralgia, fresh case.	5	No change.
5	Female, 30 y.	Right brachial neuralgia, old case.	10	Cure.
6	Male, 37 y.	Bilateral sciatica, old case.	6	No change, examination of urine, sugar, diet and opium, relief.
7	Female, 60 y.	Left trigeminal, old case.	3	Improved.
8	Female, 45 y.	Cervico-brachial, old case.	6	None.
9	Female, 37 y.	Cervico-brachial, old case.	12	Cure.
10	Male, 29 y.	Right sciatica, old case.	18	Cure.
11	Male, 33 y.	Left sciatica, fresh case.	6	No change.
12	Female, 65 y.	Left cervico-occipital; also neuralgia of the III. br. of trigeminal.	5	No change.
			over each point.	
13	Female, 40 y.	Occipital neuralgia, radiating pains to the shoulder and arm, old case.	18	Cure.
14	Female, 45 y.	Right trigeminal, R. I.	4	No change.
15	Male, 30 y.	Right sciatica, fresh case.	6	No change; afterward galvanism; relief.
16	Male, 39 y.	Right sciatica, old case.	17	Cure.
17	Male, 37 y.	Left sciatica, old case.	18	Cure.
18	Female, 44 y.	Left sciatica, old case.	12	No Change.

These cases, then, analyzed, show us, of eighteen cases, eight cures, two im-

proved, and eight unaffected. Of the eight cured cases, five were cases of sciatica. All the cured cases, including the sciaticas, were old cases. Of the unimproved cases, eight in number, three were fresh cases and two were old. The case marked eight cannot be counted, and of 12 and 14 no note is made.

At any rate, it would seem from these cases that the sciatic nerve is the one which is most impressionable to the action of this remedy, but that old, inveterate cases present a greater chance of success than fresh ones. This is contrary to Eulenburg's experience, and in my cases may be misleading, as I used the remedy only exceptionally upon fresh cases, in the majority of instances using it only as an *ultimum refugium*.

The conclusions justifiable, then, are :

1. We have in osmic acid a remedy which is of service in the treatment of certain cases of peripheral neuralgias, and in some cases where every other remedy has failed.

2. Osmic acid is not an anti-neuralgic, its action is very localized, and it frequently fails where other remedies succeed.

3. Its employment in most cases is very painful and not altogether free from danger.

4. In view of Case 8, it is dangerous to implicate a motor nerve in the injection.

The manner in which he treated his cases was as follows : He made use of a 1-per-cent. solution of osmic acid in water, and of this 0.50 to 1.00, equal to 0.005 or 0.010 of the acid was injected.

How to Prescribe Iodoform.

Dr. CHARLES PETTIT STOUT thus writes in the *Therapeutic Gazette*, Aug. 15.

1. To make a deodorized powder the iodoform must be in a very fine powder, likewise the chemical used to deodorize, and very thoroughly incorporated and let stand for one or two months in a glass-stoppered bottle.

2. To make ointments, take the deodorized iodoform and mix with vaseline or cosmoline, as the best base for the ointments.

3. In making into a pill mass add glycerin, which will keep the pill moist for a long time, owing to the hygroscopic properties of the glycerin.

4. To make suppositories, melt the ol. theobromæ at a gentle heat and stir in the deodorized powder, and pour into moulds of usual size.

5. To make the ethereal solution, add deodorized powder to the ether : can use one drachm to ounce of ether, or more if desired.

6. To make nasal bougies, cut a slender piece of fine strong sponge, about one inch and a half long, roll between two boards with pressure in shape of a thin cylinder, place a piece of strong silk through one end, and melt by gentle heat the vaseline or cosmoline with the white wax, and stir in the deodorized iodoform ; keep stirring, and immerse the sponge and withdraw and cool and immerse again, and repeating until large enough (but stirring constantly), or about the size of a goose-quill ; then hang up by silk until cool ; then coat with a solution of gelatine containing about ten per cent. of glycerin, which will easily melt at the temperature of the body. The bougie should be introduced into the nasal cavity at night and withdrawn the next morning. One will do for several applications.

7. Can also use the deodorized iodoform by mixing with solution of collodion or solution of gutta-percha, by mixing the powder with either solution and painting the parts and let dry, then paint over the first with the pure solution. By this means we prevent the iodoform from volatilizing by this impenetrable coating and secure the action of the deodorized iodoform.

The following formulæ I have satisfactorily used, and recommend them after making many experimental combinations :

Pulv. No. 1.

R. Iodoform, parts 9;
Coumarin, part 1. M.

Pulv. No. 2.

R. Iodoform, parts 9;
Vanillin, part 1. M.

Pulv. No. 3.

R. Iodoform, parts 9;
Acid. cinnamic, parts 2. M.

For Ointments.

No. 1.

R. Pulv. Nos. 1, 2, or 3, parts 60;
Ung. petrolei, parts 420. M.

For Pills.

R. Iodoform, 3j;
Vanillin,
Coumarin, āā gr. v;
Glycerin, gtt. v;
Bals. Peru, q. s.

M. et fiat mas et div. in pil. No. xxx, silver-coated.

Substitutes for Cocaine.

In the *Lancet*, July 4, Dr. PROSSER JAMES, thus writes: In a letter to *The Lancet*, last November, I mentioned that I had experimented with other alkaloids as substitutes for cocaine, or, as it may preferably be called, following Sir Robt. Christison, cucaine. It was natural at once to turn to caffeine as the most promising substance. This alkaloid, however, is difficult to manage. It is very insoluble, and very refractory to many reagents. I boiled specimen after specimen in hydrochloric acid without obtaining a combination. On evaporating, the well-washed crystals appeared unchanged, and yielded no reaction to the tests for a chloride. The ordinary citrate of caffeine in the market is not a true salt, but an indefinite mixture, and of course, therefore, ill-adapted for the proposed experiments. Acetate of caffeine seems to be more readily formed, but is unstable, the volatile acid being soon dissipated. I therefore proceeded to make double salts with soda as an additional base, and found myself in possession of some very manageable preparations. Accidentally I first made salicylate of caffeine and soda, and found it possess in some degree the property sought. Though not very soluble in cold water, it is at once taken up on applying heat, and the solu-

tion remains clear on cooling. A solution of 1 of the sodio-salicylate in 2 of water may thus be obtained, which will contain $62\frac{1}{2}$ per cent. of the alkaloid. Sodio-cinnamate gives the same results. Sodio-benzoate gives a similar solution, but is rather weaker of alkaloid, containing only 50 per cent.

I have chiefly used the salicylate and benzoate salts. They are of considerable value, and in some cases may replace the much more costly cucaïne. Applied locally to mucous membranes, these solutions deaden sensation, diminish pain, blunt the perception of tactile, thermal, and dolorous impressions; but they have not at present given me so powerful and rapid anæsthetic influence as cucaïne. I have, however, employed them largely in the pharynx and larynx; I have also resorted to them over twenty times in operating for nasal polypi. In some of these they have been quite successful, but in others less satisfactory, possibly from imperfect application.

The following experiments may interest: On Dec. 6th, 1884, a medical man with a very sensitive urethra, the passage of a sound always giving much pain, agreed to try a solution suggested to him, containing 25 per cent. of sodio-salicylate. He reported that it entirely prevented the instrument from hurting him.

A stable solution is well adapted for hypodermic use. To determine the effect I tried this method on myself. On Dec. 8th at 9.30 a. m., the pulse being 80 and the temperature (sublingual) 98.6° , I injected four minims of a saturated solution, not deeply, but near the skin, to observe the local effect. It caused some pain, and a hard lump soon appeared, such as is often seen, three-quarters of an inch by an inch and an eighth. At 10.15 a. m. the pulse was 90 and the temperature 98.8° , with a good deal of darting pain. The swelling pitted on pressure, but was insensitive. At 10.30 a. m. the pulse was 90 and the temperature 99.4° ; locally the same; some uneasiness at præcordia. At 11 a. m. the same, but locally more insensitive. At 11.30 a. m. the same, but the uneasiness at the præcordia had increased gradually. It was troublesome up to 12.30 p. m., when the local pain had nearly ceased, and the swelling had diminished to half its thickness; temperature 99.2° . By 2 p. m. the swelling had diminished to one-quarter of its size. At 11 p. m. the induration and pitting were still marked; no other symptom; temperature 99.2° . The next morning there was only a slight mark; pulse 80; temperature 98° . No doubt this solution was rather too strong for hypodermic use.

In the eye, the sodio-salicylate, except in weak solutions, causes irritation and even pain. Those who have the opportunity will perhaps try weak solutions, with a view to determine its effect.

Hypodermic Injections of Quinine in Malarial Fever.

The *London Med. Record* says that the high price of quinine induced Dr. A. SMIRNOFF, of the 23d Dragoon Regt., in Soroky, Bessarabian Government (*Voenno-Sanitarnoi Delo*, No. 14, 1885), to give an extensive trial to a long list of various substitutes for the classical anti-malarial drug. Carbolic acid, salicylic acid, burnt alum, tincture of iodine, tincture of eucalyptus, oil of eucalyptus, oil of turpentine, lemons, and faradization of the spleen, all were resorted to successively, and all of them gave uniformly negative results. With deep regret in regard to waste of time, the author returned to the exclusive use of quinine,

striving at the same time to find out a most economical method of freeing the soldier from severe Bessarabian fever in that way. Dr. Smirnofff thinks that he succeeded to find something like the desideratum in the shape of hypodermic injection of hydrochlorate of quinine; the method which is at present practiced by the author to the exclusion of all other means. He injects six grains of the hydrochlorate (dissolved in half-a-drachm of distilled water) at a time, by means of Lewin's syringe, into the subcutaneous cellular tissue below the scapular region. In the course of 1884 he successfully treated in that way 470 malarial soldiers, the whole number of injections being 1,179; that is, a case required, in average, 2.5 injections; the greatest number of the latter in an individual case was 9.

Relapse after the subcutaneous treatment occurred decidedly more rarely than after the internal administration of quinine.

That the hypodermic method is much cheaper than the internal one, may be gathered from the following comparison. To cure 178 patients treated by the internal use of the alkaloid, the author used 7,019 grains of sulphate of quinine, or 39.5 grains per head. To cure 470 patients treated hypodermically, he used 7,074 grains of muriate of quinine. Taking (with Toropoff) an eight-grain dose of the hydrochlorate as equivalent to a ten-grain dose of the sulphate, we have an average dose of 19 grains of quinine in the case of the hypodermic treatment against that of 39.5 grains in the case of the internal administration. The author never saw the appearance of any unpleasant phenomena at the spot of the injection (such as abscesses, sloughing, intense irritation). Pain was always trifling and of short duration. In some of the patients with very sensitive skin there occurred bright redness, about 3 or 4 centimetres in diameter, but it quickly disappeared spontaneously. As to the essential advantages of the hypodermic method (besides cheapness), the author points to its applicability at any stage of the disease, and to the sure and safe assimilation by the patient's system of every particle of the drug used.

[In the *Vratch. Vedom.*, No. 345, p. 541, Dr. A. Měrnyi records his most satisfactory results obtained from the treatment of severe Dobrudjan malarial fevers by subcutaneous injections of three-quarters of a grain of the hydrochlorate of quinine two or three hours before the expected paroxysm. Paroxysms usually disappeared after one injection. Relapses, however, occurred very often. In one case, an enormous abscess developed at the spot of puncture. In the *Voenno-Meditz. Jurnal*, June, 1878, p. 101, Dr. Dobrokhotoff writes that he treated 101 cases of severe Danubian malarial fever by hypodermic injections of half a grain of quinine, and obtained cure in 88 cases, recovery usually ensuing after four or six injections. According to his calculation, the hypodermic method is ten times cheaper comparatively with the internal administration. In five cases local ulceration followed. Dr. J. Grunburg, in the *Voenno-Meditz. Jurnal*, March, 1878, p. 151, also speaks very favorably of the hypodermic injections, for which he used Drygin's double salt (or "urea et chininum muriaticum,") in doses of 6 or 7 grains at a time. In the *Moskovskaia Meditz. Gaz.*, No. 13. 1872, Dr. Gradziki recommends subcutaneous injections of lactate of quinine. On the other hand, Dr. N. Toropoff argues that the hypodermic method of administration of quinine cannot possibly replace altogether the internal use of the drug, since the former causes local

pain, induration, suppuration, sloughing, requires much time, and after all is not cheaper than the latter. (See his work on "Quinine and its Use in Malarial Fever," St. Petersburg, 1871, p. 200.) The following Russian authors have also written on the subcutaneous use of quinine in intermittent fever:—Abaza, Millardë, Gorbachevsky, Konopleff, Rucker, Schönfeld, Finkelstein (900 cases), Blacher (100 cases), Zakharoff, Kostenko, Keldysh (467 cases), Kikin, Gradzicki, Feigin, Goralevitch, Schulz, Albrecht, Steinberg, Savarovsky, Jliin, Libau. —*Rep.*]

Fucus Marina.

Dr. H. S. P. LARE thus writes in the *Southern Practitioner*, July, 1885: The profession will learn, with much gratification, that a new remedy has been recently introduced to their notice, that will benefit a certain class of diseases heretofore not reached by the ordinary plan of treatment. We refer to the preparation known as *Fucus Marina*, manufactured by the Peacock Chemical Company, St. Louis.

The manner in which this preparation will make its way, will of necessity be of great importance and interest to the profession at large, as it is for the treatment of malarial affections and their sequelæ. *Fucus Marina* may aptly be called an antidote to malaria; that is, we might say to the different forms and phases of malaria, among which may be mentioned intermittent, remittent, typhus or ship fevers, typho-malarial fevers, etc.

Peacock's *Fucus Marina* is a pure *liquid* preparation, manufactured *exclusively* for physicians' prescriptions, and contains the essential medicine elements of the "marine weed" or seaweed (*fucus marina*), in a definite and agreeable form. It being uniform in therapeutic strength, and in a constant state of readiness when called for by a physician's prescription, it may be regarded as a remedy that will prove of great usefulness to the profession. But, as we are digressing somewhat from our original intent when starting out, namely, to describe its therapeutic action alone on the human system, we return to that subject. Being somewhat of an experimental and investigating turn of mind, we concluded to try the preparation of *Fucus Marina* on a few cases, and it is with pleasure we present below our tabulated experience with at least a half-dozen cases; but, before so doing, let us distinctly understand that *Fucus Marina* must not be strictly considered as an anti-periodic, nor as a substitute for quinine, but rather as an ally of quinine, *possessing antidotal alterative properties, which quinine lacks*, we believe it to be a most reliable antidote to malaria, and a prophylactic against ingrafting the malarial poison into the human system, and it eradicates the poison and prevents the return of the ague, after it has been checked by quinine or some other anti-periodic remedy. Armed with quinine to check the periodicity and to lower the fever temperature, and with *Fucus Marina* to eradicate the malarial poison from the system, the physician is well prepared to fight the insidious malarial foe.

Our first experience with *Fucus Marina* was very beneficial, and as the old saying is that "first impressions are lasting," we were favorably impressed from the first. We prescribed the preparation in a genuine case of malaria and debility following child-birth, in the ordinary prescribed dose of one drachm *ter in die*, and its action was indeed very pleasant—the *patient fully recovered*.

The next case was one of the remittent type of malaria, with rheumatic tendency, this lady being confined to her room for some weeks. Placing her on the usual adult dose, many days did not intervene before a marked improvement began, and she is now able to be about her usual household avocations.

My third experience was in the case of a little boy ten years of age; seeing him after being abandoned by another physician who attended him three weeks, treating him for ordinary chills. His was undoubtedly a case of typhoid-intermittent. After using the ordinary quinine and other antipyretic remedies without avail, I placed him on *Fucus Marina*, ten drops every three hours, and in five days had the fever under control.

My next experience was in a debilitated case of pharyngitis (syphilitic), prescribing the corrosive chloride with the iodide, using the *Fucus Marina* as a menstruum, and which, by the way, made an elegant and efficacious combination, which was of undoubted benefit.

I next tried the preparation on a patient with irritable stomach who could not bear quinine. After a week or ten days, I could readily give her the *Fucus Marina* and quinine alternately.

The sixth case was one of chronic chills, or old fashioned "shakes," contracted by a washerwoman while on board a government boat between here and Pilot Knob. She used quinine by the spoonful, as she expressed it, also dosing herself heroically with large draughts of whiskey. Placing her upon the *Fucus Marina* with iron and capsicum, in six weeks she was well and returned to the boat in the swamps.

Thus we see, in medicine as in all other sciences, that observation must be assisted by experimental research. The influence of a new remedy, brought to the notice of the physicians, either for good or for evil, must of necessity be very great, and it behooves the profession to have most clearly in their minds remedies that will be most advantageously adapted to certain diseases. There must be less indecision in testing newly discovered remedies, or else more harm to the true advancement of medicine will be the result; for we have no doubt that every member of the profession appreciates that advances in medicine, especially so of practical medicine, must proceed *pari passu* with progress in the science on which it is based. We can certainly do much to encourage the discovery and application of new remedies for certain forms and phases of disease, and on experimental research the future success of new remedies must largely depend.

Cimicifuga Racemosa as a Parturifacient.

The *Med. Age*, July 10, says: Black cohosh has for some time been supposed to exert a marked influence as a prophylactic of the pain attending the uterine contractions of labor. We are not aware that it has been generally employed to that end, although a physician recently mentioned to us the fact that he had given it with excellent results in a case in which he had anticipated much suffering. In a paper in the April number of the *Chicago Medical Journal and Examiner*, Dr. J. Suydam Knox, adjunct professor of obstetrics in Rush Medical College, mentions it with approval. After having employed it in over 150 cases, he arrives at the following conclusions touching it:

1. *Cimicifuga* has a positive sedative effect upon the parturient woman, quiet-

ing reflex irritability. Nausea, pruritus and insomnia, so common in the last six weeks of pregnancy, are always bettered, and often disappear, under its administration.

2. *Cimicifuga* has a positive anti-spasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact, during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. *Cimicifuga* relaxes uterine muscular fibre and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

4. *Cimicifuga* increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that *cimicifuga*, like ergot, maintains a better contraction of the uterus after delivery. It is my habit, however, to administer 15 to 30 minims of fl. ext. ergot after the birth of the fetal head, and I have had but few opportunities of testing this effect of the cohosh.

Uses of Traumaticine.

The *Chicago Med. Jour. and Examiner* for July says Dr. C. COSTA calls attention in *La Salute* to the beneficial effects obtained by traumaticine in many cutaneous diseases, such as psoriasis, pityriasis, versicolor, scrofuloderma and lupus erythematodes.

To Auspitz, of Vienna, belongs the credit of the introduction of this remedy and the indications for its uses. Traumaticine is a solution of one part of gutta-percha in ten parts of chloroform. It is a syrupy liquid, smells strongly of chloroform, and has a color and a consistence according to the quality of gutta-percha used; of this there are three qualities. The *brown* is that which is most abundantly found in commerce. It dissolves with greater difficulty. It dries more slowly, but preserves its elasticity longer. The *red* is that used by dentists. It dissolves more readily in the proportion of 10% and also of 20%; it forms a liquid of a rosy color, and it is to be preferred where it is to be applied to exposed parts of the body, as the face, hands, etc. The *white* dissolves quickly in chloroform in the proportions of 10 and 20%.

These solutions, when applied to the skin, easily penetrate in every fold and irregularity, and thereon dry with moderate rapidity. They form a thin adherent pellicle, white, rosy, or brown, according to the quality of the gutta-percha. The traumaticine folds and bends according to the movements of the skin, without breaking or detaching itself, and without causing any pain, compression or excessive stretching. Numerous remedies can be suspended in it according to their indications, as chrysarobin at 10% or more, as also sulphur, iodoform, salicylic acid, boric and pyrogallie acid, and other substances.

For the first time it has been used by him in the treatment of acute blennorrhagic epididymitis, applied in layers externally. Before applying it, the scrotum is to be shaved, and ice is to be applied to it for half an hour, so as to contract it

and reduce its size. By this method the swelling has rest, protection and compression, and rapidly disappears.

Costa praises the applications of traumaticine as the best remedy in these disorders.

The Therapeutic Significance of the Cervical Follicles.

Dr. SIMON BARUCH concludes in the July 4th issue of the *N. Y. Medical Journal*, a continued article on this important but indifferently understood subject, which he treats in a manner which sheds a considerable amount of light thereon. The following are the conclusions into which the article is summarized :

1. A thorough knowledge of the anatomy, physiology, and pathology of the cervical follicles will simplify the treatment of many uterine affections.

2. The cervix uteri represents a large gland of active and important function in the various sexual relations of woman.

3. In the majority of the more common diseases of the uterus the mucous membrane and its follicles play the most important rôle. A recognition of this fact will make treatment more successful.

4. Metritis, subinvolution, hyperplasia with catarrh, erosions, etc., must be studied in connection with the glands of the cervix.

5. In obstinate cases medicinal applications fail because the secreting surfaces of the follicles are not reached. Scarification and the curette are valuable adjuncts in nulliparous women without cervix laceration.

6. In parous women with lacerations, trachelorrhaphy is the most valuable procedure. As a simple plastic operation it will fail. Success depends on extirpation of the follicles, which is more important than "removal of the cicatricial plug."

7. The microscope demonstrates the dependence of catarrh, ulceration, erosion, and hypertrophy of the cervix, and often also of the body of the uterus, upon the glandular structure of the cervix uteri.

8. The cervical follicles are significant as elements in the pathology of cervix cancer, because the microscope demonstrates the dependence of the latter upon erosions, which are based upon the gland structure.

9. Laceration and erosion must be regarded with suspicion, as possible sources of future malignant disease. In operating for their removal, extirpation of the cervical follicles must be unsparing.

Burdock Seed.

Dr. JOHN R. JONES thus writes in the *Med. Age*, July 10th: Wishing to test the merits of the burdock seed, I selected two patients—elderly, intelligent, well-informed men—one of whom had suffered for many years from chronic rheumatism, and had tried numerous remedies legitimately prescribed, including salicylic acid and its salts, without obtaining decided benefit.

The other was afflicted with a chronic eczema of the scalp and forearms, which had the following history :

About twenty years ago a small eczematous spot appeared upon the scalp, above the left temple, but under medical treatment it got well. A few years later it reappeared, and constantly, though slowly, increased in size, although

treated continuously for the next thirteen years by many physicians, both regular and otherwise; and it is presumable that at times he received orthodox treatment, some of his physicians being members of this Association. His arms and other portions of his body became affected also, and the condition of the scalp had now become much worse.

The patient's head being bald, and his complexion florid, the eczema, owing to its prominence, was a source of great annoyance and disfigurement. The patch had become irregularly circular in form, extended over a large portion of the head, was of deeper color than the surrounding skin, had an elevated appearance, with thickened edges, and was generally moist.

Patent nostrums were also tried, but without benefit.

By my solicitation these men consented to give the burdock seed a fair trial, which they did, one agreeing to furnish the seed and the other the whiskey, the resulting tincture to be used between them.

The mode of preparation was simply that of macerating the coarsely ground seed in whisky, in the proportion of 2 oz. to 1 pt.

A tablespoonful three times a day, before meals, was the dose taken.

Results: A firm faith in the remedy was soon established and its efficacy proved, beyond doubt, in the case of the patient with the eczema. Improvement was rapidly progressive, and cure was complete in less than nine months.

The medicine was bitter, and at times it became tiresome to take it, so that periods of irregularity in its administration occurred; but an apparent retrograde movement would admonish him to follow up the treatment with more vigor, until he became so thoroughly convinced that he was getting well that it required no urging to have him persevere.

It is now more than a year since the disappearance of the disease, and a few days ago I failed to find, upon close examination, any mark or shade of color by which to localize the spot which was for so many years an unsightly sore.

A Case of Rattlesnake Bite Successfully Treated with Permanganate of Potash.

Dr. B. HALL SMITH thus writes in the *Atlanta Med. and Surg. Jour.*, for August:

I was summoned at sundown on the afternoon of the 31st of May, 1883, to attend John Myers, a farmer, who had been bitten by a large rattlesnake. Being somewhat delayed in responding immediately, I gave the messenger (the victim's son) a bottle of pure carbolic acid, instructing him to make all possible haste, cut deep down into the punctures made by the fangs of the serpent, and pour in some of the acid. Arming myself with a bottle of whisky (the procuring of which had caused my delay), and a bottle of permanganate of potash, I mounted a swift horse, and soon reached the bedside of the injured man, a distance of six miles from my office. I found him completely under the influence of the poison, the symptoms of snake-bite showing themselves in a marked degree; exceeding cardiac weakness, dilatation of the pupil, and great prostration. The directions given his son had been thoroughly carried out, and the wound was well cauterized. I at once attempted to give him some whisky, but found his stomach too irritable to retain it; he, unfortunately, through the advice of some friends, hav-

ing swallowed a quantity of tobacco juice, which produced such nausea as to render futile any effort to administer medicine by the stomach.

I at once resorted to my hypodermic syringe, and gave a number of injections of whisky, inserting the needle deeply into the tissues of the deltoid muscle. Immediately following, I began with the permanganate of potash, dissolving $2\frac{1}{2}$ grains in 30 minims of water, and injecting it into the tissues of the leg and arm; this I repeated every twenty minutes or half hour, alternating with whisky and an occasional dose of diluted spirits of ammonia.

I continued these remedies by the hypodermic method for three hours, when the pain of the sufferer became so great that I gave him the third of a grain of morphia, which somewhat relieved his restlessness. I continued my efforts, as described, for two hours more, when Dr. James H. Latimer, of Hazelhurst, Ga., came to my assistance, and the result of our consultation as to prognosis was, that in an hour the case would terminate fatally--Dr. L. remarking at the time that this was the twelfth case of the kind he had been called to, and the only one in which he found the patient alive when he reached him.

Dr. Latimer agreeing with me regarding the treatment, we exerted ourselves for an hour longer, at the end of which time the patient had become so much worse that we abandoned all hope, and his relatives and friends assembled around his bed to await the fatal issue. Indeed, he had every appearance of immediate dissolution, and it seemed as though every breath would be his last. At this juncture I asked permission to make one more effort to save him; my request was reluctantly granted by his family. I then gave him a number of hypodermic injections of whisky, and perhaps one of sulph. ether, and afterwards the permanganate of potash. In a few minutes his condition was less alarming, and with renewed hope we urged the same treatment with such good results that at the end of two hours he was so much improved that I was permitted to leave him for a short time. This improvement continued, and by morning I considered him almost out of danger.

At 8 o'clock, being called away, I left Dr. Latimer in charge, and did not return until 5 o'clock in the afternoon. During my absence the syringe got out of order, and the milk that was given him was immediately vomited; however, I had another syringe and gave him $\frac{1}{2}$ grain of morphia with a happy effect; he was soon able to take nourishment *ad libitum*.

There was considerable sloughing around the wound, but repair was rapid and his recovery uninterrupted.

Pimples—Acne.

Dr. FRANK L. JAMES thus writes in the *Druggists' Circular*: A correspondent requests a "good formula for making a pimple wash." This request is in keeping with another who wants a "remedy for itching," and another who wants "something to keep his eyes from watering." The appearance of "pimples" (under which term we understand a minute furunculous, or boil-like tumor, generally containing a very small drop of purulent matter) on any portion of the body, may be due, like itching, or watering of the eyes, to any one of a large number of causes. In other words it is simply a symptom of a disease, and not a disease itself, and as such it must be combated. However, the term is gener-

ally applied to a form of acne, called vulgarly "pimply-faced" acne, or simple acne—the term being a corruption of the Greek word *acme*, which is applied to it because it generally makes its appearance with the first beard, which event is the *acme* of most boys' ambition. With the usual tendency of modern specialism to divide, subdivide, and classify diseases according to certain phenomena not usually observable by the general practitioner, simple acne has been made to constitute the type of a distinct class of cutaneous affections arising from a "diseased condition of the follicular secretion" (Cazenave), and we have, therefore, a multitude of acnes described in works on skin diseases, as *acne indurata*, *acne rosecea*, *acne sebacea*, *acne punctata*, and a dozen more acnes. Nelligan divides it into two forms, viz: *Acne simplex* and *acne rosacea*, the former being a disease peculiar to early maturity, while the latter is rarely found until somewhat later in life (although it occasionally attacks young girls about the time of the first menstruation).

Simple acne, as a general thing, requires no treatment, as the state of things which gives rise to the eruption is evanescent, and nature soon restores the equilibrium which she has temporarily disturbed. However, the disappearance of the pustules may be hastened and the general health much improved by attention to diet, keeping the bowels in a soluble condition, and by the topical application of sulphur in some form—either as a wash or as an ointment. The following prescriptions have been found useful in this connection :

R. Sulphuris precipitat 3j.
 Aetheris sulphurici 3iv.
 Spiritus vini, rect., q. s. ad 3iv.
 Mix. Apply at night on retiring.

R. Precipitated sulphur 3j.
 Tincture of camphor 3iv.
 Glycerin 3ij.
 Rose water enough to make 3iv.
 Mix. Applying on retiring and let dry on the skin.

R. Potass. sulphuret 3j.
 Zinci sulphatis 3j.
 Aquæ rosarum 3iv.

Mix. Dissolve the potassium sulphuret in 2 ounces of the rose water, and the sulphate of zinc in the balance. Mix the two solutions. Use at night on retiring, giving the bottle a good shaking so as to thoroughly stir up the precipitate before application. Let dry on the face and wash off in the morning.

Dr. Sidney Ringer claims that iodide of sulphur, in the form of the official ointment, is a most excellent and certain remedy in all forms of acne.

Acne rosacea, known also as "brandy face," "carbuncled face," the rosy drop, or *gutta rosacea*, is, as remarked, a disease of more mature life than *acne simplex*, and is determined by causes other and more complex than those which incite *acne simplex*. For this reason its therapeutics are more complicated, and the practitioner will be called upon more frequently to exercise not only a good deal of patience, but of skill and professional acumen, in searching out the causes which have superinduced the eruption. The following application will, however, always be found beneficial. It is from Hilliaret, in the *Annales de Dermatologie*.

R. Sulphuris sublimatæ	℥j.
Tincturæ camphoræ	℥ij. to iv.
Ætheris sulphurici	℥j.
Aquæ, q. s. ad	℥viij.
Mix.	

Wash the face thoroughly with warm water, and the best white castile soap; dry with a soft towel, and apply the remedy, letting it dry on the face. In the morning, wash off and apply oxide of zinc ointment, or an ointment made by rubbing up a drachm of zinc oxide with an ounce of unguentum petrolei.

Niemeyer recommends a paste made of sulphur, mixed with equal parts of carbonate of sodium, glycerin, cherry laurel water, and alcohol. Like the other remedies, this should be applied at night, and allowed to dry on the skin.

The other important local measures consist in destroying the inflamed follicles by means of a fluid caustic applied very carefully. This should never be entrusted to the patient, but should be done by the practitioner himself. The acid nitrate of mercury is the best agent, and it should be applied with a glass tube drawn out to a capillary point. After evacuating the contents of the follicle, the point should be carried carefully down into the sac, and a minute drop of the caustic inserted. A little roll of good blotting paper should be at hand, and any superfluous caustic should be instantly removed with it. The application of the caustic should not be made oftener than once every four or five days. Eight or ten applications are generally sufficient to cure the worst case of acne—so says a writer in the *Annales de Dermatologie*.

The importance of dietetic and hygienic measures must not be lost sight of at any time. In some obstinate cases small doses of arsenic and of sulphide of calcium will be found very useful.

For small isolated pimples, not dependent upon acne, and as a general wash for eruptions caused by heat, etc., the following antiseptic solution will be found invaluable. It is from the *Journal de Pharmacie Alsace-Lorraine*:

R. Hydrargyri chloridi corrosivi	grns. viij	
Acidi hydrochlorici diluti	℥iv.	
Zinci sulphocarbolat	℥j.	
Alcohol	℥j.	
Glycerinæ	℥ij.	
• Aquæ rosarum, q. s. ad	℥xvj.	Mix.

Apply at night, and wash off in the morning. Twice a week will be sufficiently often to use this lotion.

Paraldehyd as a Hypnotic.

DR. G. F. HODGSON thus writes in the *Brit. Med. Jour.*, July 18: Paraldehyd has been known to chemists for a considerable time; but, as in chemical constitution it is only a modification of aldehyd, and as the latter was known, whether swallowed or inhaled, to produce convulsions and coma, and altogether to be too violent in its action to be safely available in therapeutics, it was too hastily assumed that paraldehyd would be the same.

Less than three years ago, it occurred to Dr. Cervello, of Palermo in Sicily, to test its powers; and, having administered some to rabbits and dogs, and thereby

producing in them peaceful sleep, on arousing from which they immediately seemed as before, and at once began to feed, he then ventured to try it on himself. In the course of an hour he took one drachm, which produced a strongish drowsiness, without any other unpleasant effect. This encouraged him to give it to other people, healthy and sick, with the result of soon proving it to be a valuable hypnotic, devoid of all danger, unless given in such a large quantity as nobody would think of using.

Soon after this, the remedy was employed in Italy and Germany, and of late in this country. In the *Medical Chronicle* (February, 1885), Dr. Leech, of Manchester, has contributed a carefully written article upon it; and a medical officer to one of the asylums at Northampton has recently eulogized it in the *Lancet*.

I believe that, taken altogether, my own prescriptions of it have now amounted to nearly or quite two quarts. It was expensive at first, half-a-crown for half an ounce; now, a pint may be had for 14s. As it was not at all generally kept by dispensing chemists, I bought it wholesale, as imported from Germany, and dispensed it myself, which has given me the advantage of acquiring a practical knowledge of it pharmaceutically as well as therapeutically; and I can quite join with others who have used it in believing it to be a very valuable medicine. The sleep produced by it is calm, closely resembling that of health, with no unpleasant premonitory or after effect, and its action is prompt. It seems appropriate in most diseases where a hypnotic is necessary: mania, hypochondriasis, delirium tremens, migraine, and the multifarious minor diseases in which insomnia prevails, being all benefited by it. A great advantage is its non-depressing influence on the heart, in which respect its use is often much to be preferred to that of chloral-hydrate.

Again, in gout, it is very preferable to chloral-hydrate. Liebreich held that the latter, after absorption, undergoes decomposition, setting free, in the blood, chloroform and formic acid, which last might aggravate the effects of the pre-existing uric acid dyscrasia. Others deny this chemical decomposition of chloral-hydrate in the system, and whether it occurs or not I do not pretend to know: but clinical observation leads me firmly to believe that the insomnia of gout, whether acute or chronic, is much more advantageously treated by paraldehyd than by chloral-hydrate, the latter medicine having seemed to prolong the acute attacks, and to have promoted their recurrence when given for the insomnia associated with a gouty constitution; whereas paraldehyd has seemed to have the reverse influence, and to help maintain the excretion of urine well charged with its normal solid constituents.

I know of only two conditions in which the use of paraldehyd is objectionable, namely, in irritable or inflamed states of the throat or of the stomach, which its acridity is pretty sure to aggravate; and, indeed, this pungency is to be borne in mind when prescribing it for any case, and free dilution always provided for. The following formula I find the best:

R. Pulv. tragac. comp.	℥j;
Syrup. aurant.	℥iv;
Paraldehyd,	℥j;
Sp. chlorof.	℥xv;
Aquam ad	℥ij.

In mild cases, one such dose at bed-time suffices for the night; in more severe cases, its repetition may be necessary in an hour or a few hours; and such repetition answers better than giving a larger dose at once.

By combination with morphia or with bromides, the soporific effect of both medicines seems enhanced.

As an anodyne, the power of paraldehyd is feeble. It acts principally upon the cerebrum, and partially on the medulla. It is antagonistic to strychnia, as proved by its preventing (when given beforehand) an otherwise fatal dose of strychnia from killing a rabbit or other small animal (*Société de Thérapeutique*, quoted by the *Medical Press*).

The powerful smell of paraldehyd is disagreeable to some people, and especially so the persistency with which the breath is tainted with it, twenty-four hours often scarcely sufficing for its departure after a dose; but then, as Dr. Leech remarks, this fact is a great security against its being taken clandestinely, as chloral no doubt is. When the drug is administered *per rectum*, the breath is still tainted by it. How it might answer in the sleeplessness of inflammatory and febrile diseases, I do not know, but I should expect not so well as chloralhydrate.

Paraldehyd (παρά, side by side with) is an isomeric modification of (acetic) aldehyd. At ordinary temperatures it is a colorless and inflammable fluid, whose specific gravity is 0.998, therefore just a trifle lighter than water, and with a powerful odor, somewhat resembling cœnanthic or nitric ether. Mixed with a little water it appears oily, and with a larger quantity, on shaking, mixes well.

Aldehyd (alcohol dehydrogenatum) is an organic compound, intermediate between alcohol and acid. It is derived from alcohol by abstraction of two atoms of hydrogen, and is converted into acetic acid by the addition of one atom of oxygen.

There are numerous aldehyds (acetic, benzoic, cœnanthyllic, salicylic, valeric, etc.). Nearly all of them are liquids which volatilize, and they are prone to decomposition, mere exposure to the air converting them into acids. Some of them exist ready formed in plants, or are given off as volatile oils on distilling the plants with water; thus cinnamic aldehyd constitutes an essential part of cinnamon oil, salicylic aldehyd of oil of spiræa, and so on. Aldehyd, acted on by chlorine, is converted into chloral.

These chemical details may be thought a little superfluous in a therapeutical subject, but, to my mind, it is interesting to understand paraldehyd's place in nature; and, moreover, as other aldehyds besides our acetic friend may have their paraldehyds, possibly some of these also may be found, some day, to possess valuable medicinal virtues.

Oleum Deelinæ in Skin Diseases.

Dr. JOHN ROBERTS thus writes in the *Practitioner*, June, 1885: It is my pleasure to bring before your notice to-day the therapeutical virtues of another member of the hydro-carbon family. This oil, as its name implies, is manufactured on the banks of the Dee, by the Dee Oil Company, by a process of refining; and I may say without fear of contradiction, that it is considered the most pure and refined of its kind in the market. It is not my intention to describe to you the

refining process; suffice it for me to say that I have here for your inspection a sample of the article itself, specially refined, and which I have used for the past four years with great success. I am not a believer in particular panaceæ and their reputed curative virtues, but I can speak from experience of the greater medicinal properties this oil possesses over any of its family which it has been my custom to prescribe in skin diseases. I have used vaseline extensively, both by itself and as a basis for ointments in a variety of skin diseases, but never found anything so efficacious and satisfactory in its results as *deolina* oil. It possesses several qualities to recommend itself. It is clean, inodorous, and does not become rancid, and for all it is an oil, it would appear paradoxical to say that there is little or no greasiness left after its application. As it is so easily absorbed, I have prescribed it in many cases with success where other remedies had failed. Its therapeutical virtues were accidentally discovered by a gentleman who had been subject to frequent attacks of general gouty eczema, and where all kinds of lotions and ointments had failed to afford any but temporary relief. Decided improvement followed its application at once, and, although he has had several attacks since, no other local application has been used. I now invariably give it the first trial in all cases which I consider suitable for its application. I never prescribe it during the acute stage. I recommend ablutions with either warm bran or oatmeal water, and dry the parts carefully and gently before its application. In all cases of acute general eczema, when desquamation begins I order a warm bran or oatmeal bath. Absorbent cotton wool was used in all the cases of eczema of the vulva, to keep the parts separated after the oil was applied. Constitutional causes, if any, were attended to in all the cases.

The oil has been prescribed by several medical men in Chester with very favorable results; also by a few medical gentlemen in Wales, who were present when I read the paper, and also spoke very highly of its virtues. In addition to the enclosed list of cases, I have found it very efficacious in pityriasis capitis, also eczema capitis (impetigo) in children, the scabs being previously removed by poultices.

Several cases of eczema and intertrigo in children during dentition were, some cured, and all relieved, by the daily application of the oil after an oatmeal bath.

Case I.—W. C. D., aged forty-nine, merchant, suffers from acute general gouty eczema. He has been subject to frequent attacks for the last ten years. The first attack occurred ten years ago and was very protracted, local applications having but little effect upon the disease. There have been repeated attacks during the last four years, which generally were well in a week. The remedies employed were diaphoretics and salines, then a warm oatmeal bath; *oleum deelinæ* now completed the cure without any other local application. Its effects are most soothing and healing.

Case II.—J. D., aged thirty-eight, bank accountant, has suffered for many years from chronic scorbutic eczema of the hands and wrist, generally coming on in the spring. *Liquor arsenicalis* and tonics internally, and a great variety of local applications, had been tried before *oleum deelinæ*, which had a most marked effect both in healing and soothing the irritation. There has been no return of the eczema this spring.

Case III.—J. P., aged thirty-five, a bricklayer, has been subject to attacks of

acute general eczema. The last attack was four years ago. The first and second attacks were found very tedious. The third attack was well in nine days. The same constitutional treatment was employed as in previous cases and locally warm bran baths and oleum deelineæ, which had the same effect as in other cases.

Case IV.—W. D., aged fifty-nine, a joiner, suffered from eczema marginatum of three weeks' duration. Both buttocks and thighs were extensively involved. The irritation at times was unbearable. Diaphoretics and sedatives combined were given internally, and oleum deelineæ was employed locally. It soon manifested its soothing effects, but I had to try other remedies, as there was no improvement in the eczema. Opium, lead and prussic acid, successively, produced temporary benefit. At last I added one fluid drachm of chloroform to four fluid ounces of oleum deelineæ. This had a beneficial action at once, the irritation was allayed, and the skin took on a healthy action. The patient was well in eight days after the application of this mixture.

Case V.—J. M., aged fifty-two, housewife, had suffered from acute eczema of the hands and arms for three weeks. This was the second attack. The first attack had been very tedious. It had been treated by lead, opium and prussic acid lotion. The second attack was treated purely locally by bran water bathing for a few days, and then the application of oleum deelineæ. The patient was quite well in six days.

Case VI.—J. C., aged thirty-eight, porter, had acute eczema of hands and arms for fifteen days. This was the second attack; it was excited by washing bottles. The first proved tedious in healing. This attack was treated by bran and oat-meal water bathing and the application of oleum deelineæ. The patient was well in seven days.

Case VII.—J. H., aged sixty-two, joiner, has suffered for many years from palmar eczema and piles. He has tried a great many remedies for piles and palmar irritation. Confect. sennæ was ordered every night and oleum deelineæ night and morning. He said that it was the best local application he ever had. He was well from the eczema soon, and the piles considerably relieved.

Case VIII.—H. L., aged thirty-eight, clergyman, has suffered for many years from eczema marginatum of left thigh. The oil in this case had simply a soothing effect. I applied it for two weeks without any real benefit. He had tried a great many local applications prescribed by eminent medical men without relief. I applied strong liniment. iodi, and he was well in nine days, and the disease has not returned.

Case IX.—J. M., aged 81, widow, has been subject to acute gouty eczema for some years. I applied the oil at the outset of the attack. It produced considerable pain and irritation. This taught me a lesson not to use the oil until all acute symptoms had subsided.

Case X.—J. W., aged thirty-four, housewife, has had eczema of the leg, with a large indolent place, for four months. Oleum deelineæ was applied all over the leg with a soft bandage for support. Bran water at night. It was completely healed in three weeks.

Case XI.—J. J., aged sixty, widow, has suffered from acute eczema of the leg with varicose veins for some years. Bran-water fomentations were applied for a few days, then oleum deelineæ. After many years of suffering, she was quite well in three weeks.

Case XII.—P., aged fifty, commercial traveler, had suffered from varicose eczema of the legs for many years. Bran-water fomentations were applied for three days, then oleum deelinæ twice a day, with bandage to support and lessen œdema. The patient was well in two weeks.

Case XIII.—S. P., aged 40, photographer, has suffered from chronic gouty eczema of hands and both thighs for some years. He has been subject to uric acid in the urine, and has passed several calculi. The hands look dry and cracking, both on the dorsum and palm. No history of syphilis. Arsenic, liquor potassæ, and potassium iodide were given internally, and oleum deelinæ was applied locally. He says that the oil is the best local application he ever tried. It relieves irritation at once. It keeps the skin soft and easy, and has produced marked benefit, but it has not quite cured the eruption. The hands are rather rough and scaly, but the thighs got well after a few applications.

Case XIV.—J. L., aged 24, housewife, suffers from congenital ichthyosis. She is always suffering from dyspepsia and debility. The eruption extends from neck to feet, and is universal. The scales are bright and of a fair size. It has been a source of great pain to her. She had consulted several medical men. When she came to me she was using chrysophanic acid. She was ordered daily bran baths and ol. deelinæ applied night and morning. The scales had entirely disappeared in three weeks, and have not returned (now six months). The skin is smooth and soft, but there are remaining furrows where the scales were attached.

Case XV.—J. C., aged thirty-six, housewife, has suffered from eczema mucosum, intertrigo of vulva, off and on for years. She is subject to leucorrhœa. She was ordered bran baths every night and oleum deelinæ applied afterwards. The relief was marked, and the patient was well after three or four applications, always keeping absorbent cotton wool between labia and thigh.

Case XVI.—A. R., aged forty-five, housewife, has suffered from eczema mucosum like the previous case. The same treatment was adopted. Although the disease has a tendency to return, the treatment soon gets her well.

Case XVII.—G. M., aged forty-two, housewife, has suffered from eczema mucosum like the preceding cases. She is subject to ulceration of the cervix, and leucorrhœa. She never received so much benefit from any local application, and always keeps it by her.

Case XVIII.—M. M., aged sixty-four, housewife, has suffered like the preceding cases. In her, obesity is the cause. She used the oatmeal water and applied the oleum with marked and immediate relief.

Case XIX.—J. C., aged thirty-five, housewife, has suffered like the preceding. She is subject to leucorrhœa. She has derived more benefit from the oleum than any other local application.

Case XX.—J. B., aged sixty-four, housewife, has suffered like the preceding for six months. Cancer of the uterus with the vagina implicated; irritation great; two different sedative local applications. Oleum deelinæ, she says, is the best I had prescribed for her; it soothed her at once.

Case XXI.—M. M., aged sixty-six, housewife, has suffered like the preceding for many years. She is troubled with prolapsus uteri and a good deal of unpleasant discharge. She found more relief from the oil than any other local application, always using warm bran water before.

Case XXII.—S. S., aged sixty-two, housewife, has suffered from chronic erythematous eruption of legs and popliteal spaces for many years. She has been under medical treatment for some years. At the suggestion of her daughter, who had been using *oleum deelinæ*, she tried it, and to her great comfort and relief, there was a decided improvement in two weeks. The last report I had was that she was then using the oil and very much better.

Case XXIII.—J. B., aged twenty-six, dressmaker, has had eczema of the hands for some weeks, produced by the dye of the materials used in her work. She tried several local remedies before consulting me. She was ordered poppy heads fomentation for three days, then *oleum deelinæ*. She was cured in six days.

Case XXIV.—J. R., aged forty-two, fitter, has suffered from eczema of the perineum with piles for many years. The itching in this case was intolerable. He had used a great variety of applications for relief. He was ordered *confect. sennæ* internally and to use *oleum deelinæ* every night, after bathing first in oatmeal water. Relief was immediate and he soon got quite well.

Case XXV.—J. D., aged fifty, joiner, has had eczema of the hands and arms for a month. He is subject to an erythematous rash upon his hands. The present attack came on after a cold with some rheumatic symptoms. Diaphoretics and alkalies were given internally. Bran baths and *oleum deelinæ* were used locally. He was well in five days, and the hands have been perfectly free ever since.

Case XXVI.—J. O., aged 44, dressmaker, has had eczema of the hands for some years. *Oleum deelinæ* soothed the irritation, and the hands were quite healed in two weeks.

Case XXVII.—C. H. W., aged eight months, has had acute general eczema for two months, caused by dentition. The irritation was very great. A sedative powder was given at night. Bran baths and *oleum deelinæ* were used locally. The child was quite well in two weeks.

Case XXVIII.—M. K., aged sixty-four, housewife, has had eczema of both legs with œdema for some years. She has been suffering from heart-disease, with œdema of feet and legs and a varicose state of legs. Then she had a sudden outbreak of weeping eczema. Poppy-head fomentations were used for a few days, then *oleum deelinæ*. The oil has proved the best local application, having tried a great variety of liniments, ointments, etc., for many years. She is subject to relapses, but always uses the oil.

Case XXIX.—H. H., aged 68, housewife, has suffered from erythema of the legs and thighs for some years. She is subject to attacks of acute erythema of legs and thighs, and sometimes of the face. I always used the lead and opium lotion with camphor and lime; but she finds the oil more soothing and healing than previous applications. She has used it in two attacks, and got well much sooner with the oil.

Case XXX.—J. T., aged thirty-eight, housewife, has had acute eczema of the hands and arms for three weeks. This is the second attack. The first was more general, the face being implicated and œdematous. Bran bath and *oleum deelinæ* only were used. She was cured in five days.

Case XXXI.—J. F., aged forty-four, gas inspector, has suffered from eczema

of the perineum for some years. He is subject to bleeding piles and great irritation of the seat. He used oleum deelinæ with marked relief, and was well in three weeks.

Case XXXII.—J. G., aged sixty-two, master bricklayer, after suffering from eczema of the ears for several weeks, was cured in five days.

Case XXXIII.—J. N., aged sixty, gentleman, has suffered from eczema in both legs for many years. He has been troubled with varicose veins for many years and great irritation. He tried a great many different local remedies. After using bran-water ablutions and then oleum deelinæ, he experienced immediate relief, and was much improved in ten days. I have not seen him since.

Case XXXIV.—W. R. J., aged forty-two, engine driver, was subject to piles and excoriation about the anus for many months. He used bran-water and applied oleum deelinæ, and was well in six days.

Case XXXV.—J. R., aged forty, tailor, has suffered from chronic eczema of the hands and anus for many weeks. He is a delicate man; subject to dyspepsia. I prescribed small doses of iron and arsenic. Oleum deelinæ afforded relief from irritation, and he was quite well in three weeks.

Case XXXVI.—J. P., aged twenty-one, printer, has had sycosis for two years. Both the chin and cheeks were involved in an erythematous state. I applied oleum deelinæ, which produced considerable irritation. In five days I added benzoate of zinc, and the irritation subsided. He went on with the oil afterwards, and was nearly well in three weeks.

Case XXXVII.—W. T., aged thirty-eight, commercial traveler, has had chronic eczema of both hands for many months. He had been in delicate health for some years. Took a course of tonics and tried a great many different local applications, but with merely temporary relief. Oleum deelinæ was finally tried, and he was well in three weeks. It was combined with benzoate of zinc at first.

Case XXXVIII.—J. B., aged twenty-eight, upholsterer, has had irritation of the seat for two years. He has been subject to piles for years, which were removed by operation three years ago. Irritation of seat returned, and at times it was very distressing. Had prescribed several kinds of local applications before oleum deelinæ, which afforded him more relief than anything else. He is now much better, but not quite free from the irritation.

Case XXXIX.—J. P., aged twenty-one, bricklayer, has suffered from sycosis for two years. He has tried a great many remedies. I prescribed oleum deelinæ, which caused considerable irritation and pain. I added ʒj oleate of zinc to ʒj oleum deelinæ; inflammation subsided, and in two weeks he again commenced with the oil. It suited him admirably, and he was quite well in three weeks.

Case XL.—W. P., aged thirty-five, stationer, has had acute general eczema for five days. He has been threatened by attacks for some time. He is evidently of the rheumatic diathesis. I ordered saline diaphoretics. On the 8th day the skin began to desquamate. A bran bath was then ordered, and oleum deelinæ used afterwards daily. He was completely cured in thirteen days, and has had no return of his skin troubles.

Case XLI.—F. T., aged twenty-eight, bricklayer, has had chronic eczema of the hands for many months. The palms of both hands had been rough and cracking for months; had applied different remedies. Ordered abluion twice a day

with oatmeal water and oleum deelinæ applied. He was able to resume work in two weeks, and he is now well.

Case XLII.—G. J. H., aged fifty-eight, merchant, has had eczema of both legs and anus for some months. He has been subject to frequent attacks of gout for years. The eczema appeared first around the ankles, then the whole of the legs became involved. Constitutional remedies were administered, and oleum deelinæ applied to the inflamed parts. The oil brought on a very copious eruption, a good deal of pain and weeping. I stopped it at once and ordered hot poppy-head fomentation; in five days the inflammation had subsided, and some oxalate of zinc ointment applied. After a month's treatment, not much better, and had the oil again, which had much the same effect. It evidently did not suit this case. He is now using an almond oil emulsion with zinc, and is gradually recovering. The medicine, no doubt, also upon the gouty element, and facilitates recovery.

Aconitine in Congestion of the Bowels.

Dr. E. BENKENDORF reports this case in the *St. Louis Med. and Surg. Jour.* for July:

I was called a week ago to see an infant, eight months old, that was suddenly prostrated and was nearly bordering on a semi-comatose condition of the brain, having had, but a little time before my arrival, a copious watery stool accompanied with vomiting.

The patient had been in good health all along, and was so to within an hour of the attack.

The child was, as I said, semi-comatose, the head not being as warm as usual; the abdomen was hot and the child's mouth dry, without the usual secretion attending dentition. Pulse slower than the heat of the abdomen would have made me expect.

I prescribed $\frac{1}{1000}$ grain of "Merk's" amorphous aconitine, in a solution, as a dose to be given every half hour until the temperature of the abdomen was reduced, and the child be perspiring and show a general feeling of well-being and its usual mental condition. On leaving, I left a prescription for fractional doses of calomel, to be given if the diarrhœa should set in again.

In my visit next morning I was informed that the child had not taken the mercury powders, but the aconitine alone. It felt well, the heat of the bowels was reduced, the child was as lively as usual, and had had no more discharges from the bowels, except a natural one in the morning.

Does it not appear that the small doses of *aconitine* acted curative on the parietic condition of the bowels, and quickly removed the engorgement of the abdominal vessels in consequence of which the equilibrium of the whole nervous system was re-established? In evidence, I found the heat of the abdomen tempered to its natural warmth and the child's mental expression the same as it was said generally to manifest—cheerful and playful.

The child is still in the favorable condition mentioned.

IV. GENERAL MEDICINE.

Case of Cryptorchis.

Dr. CHAS. S. GWYN thus writes in *Daniel's Texas Med. Jour.*, July, 1885: Mr. M., aged 36 years, weight about 160 pounds.—To-day I was consulted for deformity of penis and appendages by Mr. M. Upon examination I found an infantile penis and scrotum without testicles, they being in the upper part of the inguinal canal. The history of the case, as far as I could learn, was that he was a "seven-months child," and was exceedingly small and delicate up to the age of eleven years, when his family physician applied a home-made truss with powerful springs, which gave him a great deal of pain, for a supposed double inguinal hernia; the irritation and probably inflammation caused occlusion of the lower portions of the inguinal canal, and the external abdominal ring prevented the descent of the testicles to the scrotum. The penis and scrotum were hardly larger than those of a four-year-old boy. There were a few, coarse, scattering hairs upon the pubes; no beard upon the face, hardly a down; voice strong and muscular, a deep bass, having regularly undergone the change at puberty (?); chest and limbs fully developed.

Complains that his passions and sexual desires give him both mental and physical pain, without the means to gratify them; yet he has erections of the rudimentary organ, especially in his dreaming moments, so much so that he has to avoid female society as much as possible for the fear that "unclean thoughts" may trouble his repose.

He declines surgical interference.

New Tests for Sugar in Urine.

Some years ago Dr. GEORGE HAY pointed out, as others have done, the unreliability of Trommer's test for sugar in the urine. An article has recently appeared in the *Therapeutic Gazette*, by Dr. Hay. It gives an account of an experimental investigation of the reactions of various cupric salts with grape sugar. Experiments have been made with cupric chloride, sulphate, nitrate, acetate, oxalate, citrate, tartrate, and acetate followed by tartrate, also with zinc sulphate followed by copper tartrate, zinc acetate followed by cupric tartrate, sulphate of aluminium followed by cupric tartrate, acetate of aluminium followed by cupric tartrate, protochloride of tin, followed by cupric tartrate, acetic acid and acetate of lead followed by cupric tartrate. The tests are said to be much more reliable than any that have hitherto been proposed. Dr. Hay strongly recommends some of the tests for quantitative purposes. One general idea pervades the whole of the tests, and this is the separation of substances which interfere with the reactions. We shall describe two of the methods most strongly

recommended. Thirty drops of a saturated solution of cupri acetate are added to two drachms of urine containing one-fifth of a grain of grape sugar. The mixture is heated in a bath of boiling water for ten minutes, and then cooled by immersion in cold water. A bulky precipitate results. The whole of the contents of the tube are turned on to a filter; a few more drops of the acetate of copper are added to the filtrate, with a view to removing everything precipitable. If the fluid remain clear, a grain and a half of cupric tartrate is added, and then potash in excess, so as to form an intensely blue solution. Heat is next applied, then the suboxide of copper is precipitated. Here is another method: Ten drops of a strong solution of chloride of tin are added to two drachms of urine containing one-fifth of a grain of grape sugar. An abundant pink precipitate results. The test tube and contents are heated and afterwards cooled by immersion and filtered. The filtrate must then be re-tested with a few drops of the solution of chloride of tin. If it remain clear, a solution of carbonate of soda is added till a faint alkaline reaction is obtained; heat is applied, and a yellowish-white precipitate of oxide of tin is thrown down; then filter whilst hot; the filtrate should contain no salt of tin. Tartaric acid is added to the filtrate until a faint acid reaction is present; then a grain and a half of cupric tartrate is added, and next potash in excess, with the production of a clear blue solution. Heat is applied. In five minutes the fluid becomes yellow; in ten minutes an orange-yellow precipitate forms, of suboxide of copper. There can be no question of the neatness and cleanliness of these methods of testing for sugar, but they would involve too much labor and take too much time for ordinary clinical purposes.

Lipocardiac Asthma.

The *London Med. Record*, Aug. 15, tells us that under the name of "lipocardiac asthma," Professor Cantani gives an account of the affection described by him since 1864 as "fatty heart asthma." The patient is perhaps quiet in bed or in an arm-chair, when suddenly, without any apparent reason, the rhythm of his respiratory movements is disturbed. Little by little, sometimes almost insensibly, his respirations become more frequent, shorter, and more profound, amounting at times to a laborious and even stertorous dyspnoea. Gradually the respirations become less frequent and profound, returning by degrees to the normal. Such attacks are usually short in duration; severe attacks last only a few minutes, and mild attacks only about two or three minutes. At first the outbreaks are infrequent—about once a month, or three or four in course of the year; and then they follow fatigue, muscular efforts, or emotional disturbance. As time wears on, the attacks begin to recur at short intervals and without apparent cause.

The origin of these symptoms, according to the author, lies not in mere fatty hypertrophy of the heart, but in fatty degeneration of the muscular tissue of the organ. The symptoms show themselves when the heart begins to be tired. With this muscle, however, fatigue means impossibility to continue its work with its usual power. It requires, therefore, a brief period of relative repose, of less energetic contraction. This, however, involves a less complete emptying of the ventricles. Now, during this period of relative repose, of fatigue of the heart, the quantity of blood driven into the lungs by the right ventricle and to the rest

of the body from the left ventricle is, for the time, diminished. Not merely, therefore, is there less blood oxygenated in the lungs, but the blood that is oxygenated is distributed more slowly throughout the body. This insufficient supply of blood to the tissues provokes a nervous erythism, or general hyperæsthesia.

The recognition of lipocardiac asthma is important, inasmuch as the prognosis is much more unfavorable than in any other kind of cardiac asthma. It must be distinguished from angina pectoris, with which it is apt to be confounded, and with which, in fact, it is rarely conjoined. Another disorder of respiration with which it might be confounded, is Cheyne-Stokes' respiration. Cheyne-Stokes' respiration, however, is a symptom in various morbid states. It has a different pathogenesis and a different significance. In it there is apnœa; in lipocardiac asthma, on the contrary, there is only dyspnœa. Cheyne-Stokes' respiration occurs at brief intervals, and does not occur long before death. Lipocardiac asthma occurs at distant intervals, and may occur for many years before death.

The treatment of lipocardiac asthma consists in improving the general health of the patient. Against the symptoms, digitalis, convallaria, valerianate of quinine, caffeine, cognac, red wine boiled with cannella, etc., may be useful. In fatty persons who are not too old, ferruginous preparations may be tried.

Arsenic among the Ancients.

The *Med. Press*, August 19th, says: Among the mineral poisons known to and used by the people in India we find that arsenic was enumerated; thus Susruta, whose works are referred to B. C. 1400, makes mention of the white oxide, called at that time *phenâshma-bhasma*, and *deâmaka*, and the yellow sulphuret, called *haritâla*. There is every reason to believe that the same mineral in one or other of its forms was used in that country, and at that distant period, as a prophylactic against malaria, and that when about A. D. 730 the Buddhist physician Weiku found his way thence to China, he introduced that drug into the latter empire. There appear, indeed, to be some grounds for the belief that previous to the arrival of the Buddhists, arsenic was used in China, both as a prophylactic against periodic fevers and as a remedy in their treatment. The manner of employing the drug appears, however, to have been peculiar; thus, it is recorded that "arsenic and other medicines were carried in a belt, branches of the peach tree hung up in the house, talismans and charms of various kinds made use of, while, at the same time, by means of music of gongs and drums, and fireworks, demons may be driven off." The *Pent'sao* or "Chinese Herbal," the date of which is referred to the period A. D. 1370 to A. D. 1650, contains instructions in regard to the use of sublimed arsenic (*Pi-shih*) in cases of ague. The process of sublimation is supposed to develop the poison of the mineral.

At the present day, at Wenchow, orpiment and king's yellow are used as prophylactics against malarious and *demoniacal* influences, infinitesimal doses being taken with cinnabar, in a little liquor, on the fifth day of the fifth moon—Dragon festival. In the case of children the drug is smeared on the forehead. Elsewhere in China arsenic *smoking*, by means of a pipe, is used as a remedy for asthma. None of these are sold in shops in China without evidence and witnesses to the propriety of the sale. The punishment of death by decapitation is inflicted upon both the seller and the buyer if fatal effects result. If not fatal

they are both strangled. If the druggist ignorantly or carelessly sells the poison he receives eighty blows.

In Styria the workmen engaged in arsenic mines take arsenic as a protective against effects which would otherwise occur to them from inhaling the fumes from the furnaces in which the mineral is sublimed. One of these men has consumed above six grains of white arsenic, a quantity enough to poison three persons, without suffering the least inconvenience; and it was stated that he was accustomed for years to consume similar quantities of the drug. Another man took more than four grains of the yellow arsenic, that is, of orpiment, and he, too, had done so for years. Both these men were in robust health. It is said that the Styrians consume large quantities of butter, as well as other food rich in fats, and that the oily matters forming a kind of soap with the arsenic, the latter is thus prevented from producing its ordinary effects upon the body. This may be so, although by no means necessarily. Having once secured a series of facts, a theory wherewith to explain them may be easily and readily presented.

A Report of A Case of Attempted Suicide by Drowning.

Dr. W. C. FISHER thus writes in *The Texas Courier-Record of Medicine* for July:

B. J., weary of life and the victim of unhappy circumstances, resolved to drown his sorrows by dedicating his body to Neptune (Gulf of Mexico). On the morning of April 29, 1885, at the hour of 4 o'clock, he was on the beach about a half mile from the well-known and popular resort, the Beach hotel. He divested himself of all his clothing and went out into deep water; dived and kept his mouth open, determined to put an end to himself. Shortly after being under the water he felt, as he described it, a straining at the heart, then headache, dizziness, like a man under the influence of chloroform prior to unconsciousness. (He had taken chloroform some time in his life.) He then felt as if his body was turned upward, and all was over. He lost all consciousness.

How long after this no man knows, but he found himself on the beach just at the edge of the water, lying in a dorso-lateral position, and the water was running out of his mouth and anus in a steady stream. He was for some little time muddled and unable to move. After a short while, by force of will-power, he arose and walked to the place where he had disrobed, and, between combating the pain in the heart and right side of the chest, and relieving himself of the salt water which escaped from the anus, and caused a great deal of tenesmus, he then dressed; but the suffering was so intense and debility so great that it was only by the greatest effort that he managed to make his way to the Health Office, a distance of a mile or a mile and a half. On his way he felt feverish and drank soda and ice freely, which relieved him a great deal.

He remained at the Health Office for some time, awaiting the arrival of the physician, so that he could secure a permit for admission to the hospital. He arrived at the hospital about half-past ten of the morning of the attempted suicide. He was suffering with dyspnoea, a congested face, nervous tremor, quick pulse, and a temperature of nearly 100° F. Physical examination of the chest revealed a slight bronchitis in the upper lobe of the left lung, and a peculiar spasmodic action of the aortic valve. The middle and lower lobes of the right lung were

slightly dull on percussion, and on auscultation there were marked moist rales, similar to those we would get in an œdema of the lungs. His pulse was compressible, and his general appearance was that of one suffering from some affection of the heart.

Not knowing the history of the case, and ascertaining that he had suffered at different times with acute rheumatism, and that he had been exposed of late to atmospheric changes, I diagnosed the case as one of pulmonary œdema, due in all probability to some lesion of the aortic valve. I ordered him quinine and a stimulating expectorant mixture, and warm poultices continually applied to the whole of the right side of the chest. When I examined him in the evening I found that his temperature had gone down about one-half degree, his pulse had gained in volume, but the other symptoms were unchanged. On the next morning my friend, Dr. Wasden, marine surgeon at this port, examined him with me and agreed with me in diagnosis; but neither of us was able to diagnose the peculiar lesion of the heart, nor were we able to say whether it was functional or organic. I continued the same treatment, and in the course of three or four days he was up and about. He was, though, still very much debilitated. I again examined the chest and found that the moist rales had disappeared and were replaced by those of a dry or subcrepitant nature. The spasmodic action of the aortic valves still continued. About ten days from the time of admission he was discharged, and all the physical signs had disappeared. He then revealed to me the secret of his unsuccessful attempt to drown himself.

Ancient Anæsthetics.

The *National Druggist*, July 10th, says that to most persons, professional as well as laymen, the word "anæsthesia," or "anæsthetic," suggests an entirely modern conception. Indeed, were the question asked, "what do you consider the greatest discovery of the nineteenth century?" the answer, in the great majority of cases would be, "that of surgical anæsthesia." And yet the student of history is constantly reminded of the fact that anæsthesia, in the true surgical acceptance of the term, is a very ancient conception, and that it has been practiced, in some degree or form, from time immemorial. The subject was brought up very opportunely at the seance of June 28, of the Academie de Medecine, by M. Lagneau, who announced the discovery by M. Haureau, at the Grande Bibliotheque, of a hitherto entirely unknown manuscript of Abelard, in which occurs a very remarkable passage bearing upon surgical anæsthesia. The learned theologian, of whose skepticism so many significant hints are found in his correspondence with Heloise, in discussing the biblical account of the origin of woman in this newly-discovered document, expresses his surprise at the fact that the rib could have been taken from Adam without pain, even in a deep sleep, and says: "Surely the sleep must have been like that produced by surgeons when they go to operate."

Continuing his remarks, M. Lagneau said that although most of the medicaments mentioned by ancient authors as possessing anæsthetic powers have been found to do so to a very limited extent, it is nevertheless true that they were employed for that purpose, sometimes topically, at others by ingestion, inhalation, or olfaction. M. Maurice Perrin has given a list of the majority of the articles thus employed.

Pliny speaks of a certain Memphian stone which, when powdered and mixed with vinegar and applied to the body, produced local insensibility, so that the cautery or knife might be applied without causing pain.

Pliny, Dioscorides, Matthiolus, Desmoulins, Rembert Dodoens, De l'Escluse, and others, tell how to put to sleep a patient upon whom it is desired to perform a painful operation. The one describes the virtues of certain vegetable juices, another of a decoction of mandragora root, another of a macerate of roots and barks in sweet wine, while another uses "a little dose of a plant called morion, which may be given in bread or other food."

The decoctions of mandrake and morion, and of other known vegetable narcotics, were very frequently used up to the twelfth and thirteenth centuries, but seem to have fallen into desuetude in the sixteenth century at the time of Ambrose Pare.

To the internal use of mandrake as an anæsthetic we may add that of opium, as indicated by Guy de Chauliac (fourteenth century), Jean Canappe, and Laurens Joubert. Indian hemp, too, was used for the same purpose and in the same manner in the Orient in the first century of our era, particularly by the Chinese. Stanislas Julian mentions a physician of that people, named Hoa Tho, who used this drug, under the name of Ma-Yo, for the production of general anæsthesia at this early period.

Anæsthesia by olfaction—that is, produced by the smelling of certain substances—has been a favorite theme or device of the poets and story-tellers from time immemorial. It was practiced in the thirteenth century by at least two physicians whose names have come down to us—Hughes de Lucques, Dominican, provincial of Rome, and Theodoric, free preacher, bishop of Cervia (near Ravenna). The agent used by each of these men was a polypharmacic preparation, and while the two formulæ were not identical, they were nearly so, the ingredients being in each instance opium, the juices of hyoscyamus, mandrake, hemlock, and many other similar plants. It was prepared and kept in a liquid. When required for use a sponge was dipped in the fluid, saturated, and placed in the sunlight, where it was allowed to dry down to a certain desired consistency. It was simply placed under the nose of the patient, who continued to smell it until he fell asleep. Porta, in his *Natural Magic*, gives a formula for an analogous preparation. It is highly improbable that simply smelling these preparations produced true surgical anæsthesia, and we must believe, therefore, that what is called "smelling" (*olfaction*) was really inhalation.

Post Mortem Examination of a Dirt-Eater.

DRS. HOWARD J. WILLIAMS AND M'HATTON thus write in the *Atlanta Med. and Surg. Jour.*, for August :

The following *post mortem* may be of interest, as it may perhaps indicate the pathological changes to be found resulting from dirt-eating. The examination was made last November at the "South Georgia Conference Orphans' Home," near Macon. Dr. Holt, the attending physician, and Dr. Kenan Hall were present. The clinical history was very meagre, as the patient had arrived at the Home a few days before, and his death was rather sudden. The patient, a confirmed dirt-eater, white, male, aged ten years, small for his age, not much emaci-

ated, but profoundly anæmic, the skin presenting the peculiar chamois-skin color common to this class of patients, had been sick only a few hours when death occurred. The *post mortem* was held twelve hours after death, and *rigor mortis* was well established. Opening the abdominal cavity the peritoneum presented a pale glistening appearance, with a normal amount of fluid present. *Free grit* was found in peritoneal cavity. The large intestine was bound down posteriorly and in some places matted together by old adhesions. The adhesions extended from the vermiform appendix to the rectum. The pressure of the grit in the cavity of the peritoneum accounts for the adhesions, perforation and escape of the grit causing peritonitis at some period in the past history of the case. The intestines were distended with gas and contained a normal amount of feces. On the inner coat of the intestines there were several points of ecchymoses.

The stomach was distended with gas. The pylorus was decidedly thickened. (Thickening of the pylorus is often the result of local irritation, as the passage of foreign bodies, as in the present case.)

The liver was very much enlarged (about the size of an adult organ), edges rounded, a doughy aspect, and of a yellowish gray color. On section there were several layers which were vitreous and semi-transparent.

The spleen was enlarged, twice the size of the normal (adult) gland, thickened, homogeneous in appearance, on section soft and doughy, the capsule thickened and adherent.

The kidneys were enlarged (the right larger than the left), most of the thickening being in the cortical substance, pale gray in color, the pyramids were distinct, though pale, capsule non-adherent.

These organs had evidently undergone amyloid degeneration; the kidneys advanced only in the first stage.

Opening the thoracic cavity, the lungs were found non-adherent, a normal amount of fluid in the pleural cavity. The lower part of the upper lobe of the left lung on section presented a beginning croupous pneumonia. The extreme free border of the lobe had gone into the third stage, or stage of purulent infiltration. The remainder of the left and the entire right lung were normal, except a few spots of hypostatic pneumonia posteriorly.

In the pericardium there was no evidence of active inflammation, although there was present about a gill of fluid. Both ventricles of the heart were dilated. The left was filled with a soft, friable clot, which had no distinct layers, and the blood was darker than normal. This character of blood clot is often present in anæmic conditions, as scorbutus, poisoning by phosphoretic hydrogen, and that class of diseases.

In regard to the immediate cause of death, we may say that, owing to the reduced condition of his vital powers, he would readily have yielded to any intercurrent disease, and we are convinced that the small focus of pneumonic infiltration was the immediate cause of death. The small spot of solidification presented sufficient obstacle to the blood current to cause, in the weakened condition of the heart, death by asthenia.

This patient, as is the case with all dirt-eaters, was very anæmic, and all the organs presented amyloid degeneration, which is common to profound anæmia from any chronic disease of the blood-making organs. As these dirt-eaters are

anæmic, and as amyloid degeneration is common in protracted anæmia from whatever cause, it is natural that we should incline to the conclusion that amyloid degeneration is always associated with the habit, and in dirt-eating we have, perhaps, another cause of amyloid changes. Yet nothing positive can be decided without further observations, for these visceral changes may not be present in other individuals of the class.

That it is a vice of nutrition we all recognize, but the primary cause of the vice is not yet determined. Whether the depraved appetite is the effect of the disordered nutrition and the changes in the blood-making organs, or the disorders of nutrition and the anæmia attending the habit are caused by the appetite, is still doubtful.

The habit is a common disease, occurring in the West Indies, Africa, South America, and especially in the temperate and tropic zones. Once acquired it is never abandoned; change in climate and hygienic surroundings have no controlling influence on the vitiated appetite. Reports of similar cases and careful *post mortem* examinations would give light on this subject, of which so little is known.

The Practical Use of Mercuric Chloride as a Disinfectant.

DR. VICTOR C. VAUGHAN thus writes in the *Med. News*, August 29: Since mercuric chloride has been put forward as one of the most reliable disinfectants, its practical use has been largely discussed, and some supposed dangers in its general employment have been brought forward. It was for the purpose of ascertaining how much truth there may be in these statements that the following experiments were undertaken.

Is there danger of the passage of this highly poisonous salt from cess-pools and privy-vaults, in which its use has been recommended, through the soil into wells? Sanitarians have had so much to say about well-water being poisoned by the filtration of organic matter through the soil from privy-vaults and cess-pools, that it is not surprising that the above question should be asked. In order to answer it, the following experiments were made:

Experiment 1. A large glass funnel carrying a filter-paper was filled with gravel, taken from a distance of about four feet beneath the surface. The weight of the gravel was eleven and three-fourths pounds, and, when placed in the funnel it formed an inverted cone with a base of ten inches diameter, and an altitude of eight inches. On this was poured one pint of standard solution No. 2 (corrosive sublimate and permanganate of potash, two drachms of each to the gallon of water), recommended for the disinfection of excreta. After a few minutes a pint of distilled water was also filtered through the soil. This was done in order to wash through any mercury that might be held mechanically in the gravel. The filtrate was collected, concentrated to one fluidounce, and tested for mercury. The result was negative. The soil retained all of the poison.

Experiment 2. This was similar to the above, but black loam was used instead of the gravel. The weight of the soil used was seven pounds. The result was the same as with the gravel.

Experiment 3. In this instance, clay was used. The weight of the clay was nine and one-fourth pounds. As the soil in this case was very dry, it was

thoroughly moistened with water before the solution of mercuric chloride was poured on.

These experiments show that the quantities of the different soils, as given above, will remove from solution and retain all the mercury contained in one pint of standard solution No. 2—fifteen grains of mercuric chloride. That a much smaller amount of soil would accomplish the same result, was shown by the following:

Experiment 4. One and one-half pounds of gravel were placed on the filter, and one pint of standard solution No. 2—one ounce at a time—was filtered through the gravel. The filtrate contained no mercury.

From these experiments it will be seen that the fear that mercuric chloride may filter through the soil, when used as a disinfectant in privy-vaults and cess-pools, into wells and thus poison the water, is groundless. Of course, where there is open connection between the cess-pool and wells by the formation of small subterranean rivulets, there would be danger. The fixation of mercury in the soil is doubtless largely, if not wholly, due to the presence of certain inorganic salts, such as carbonates and phosphates, which form insoluble compounds of mercury.

At the recent Cholera Conference at Rome, Dr. Koch gave, as one of his reasons for not recommending mercuric chloride as a disinfectant, the belief that its disinfecting action was interfered with by the fact that it entered into combination with albuminous material, and thus failed to come into contact with germs enclosed in albuminous masses.* That a combination between the mercury and albumen does occur may be shown by the following very simple test:

Experiment 5. Suspend some recently precipitated mercuric oxide in distilled water, add some egg-albumen, agitate thoroughly, and filter. The filtrate is clear and colorless. Boil this filtrate with potassium chlorate and hydrochloric acid until all the organic matter is destroyed. Then test for mercury with hydrogen sulphide or stannous chloride. The mercury will be found to be present, and all that which was used as mercuric oxide can be recovered.

Albumen dissolves the oxide, forming, probably, mercuric albuminate; but there is no reason for believing that the mercuric albuminate does not diffuse through organic matter. As shown in the experiments, it is freely soluble and readily passes through the filter-paper. It is altogether probable that it is this mercuric albuminate which forms such a powerful germicide. In this compound we have the mercury in the shape in which it would most likely be taken up by those lower forms of life which feed upon albuminous material.

Medical men have, for a long time, regarded "yellow wash" as the most successful application that could be made to syphilitic sores. Is it not likely that its great value is due to the formation of mercuric albuminate, which has a local action on the virus, and penetrates the tissue as well? A substance which is not absorbed by living organisms is not poisonous to them, and if by the formation of this mercuric albuminate the most readily absorbable form of mercury is secured, its poisonous properties are intensified.

Further considerations concerning the use of mercuric chloride will be pre-

sented as soon as some additional experiments are made. The writer is indebted to two of his students, Messrs. Wagner and Bobb, for aid in the experimental work.

Note.—By Dr. G. M. Sternberg, Chairman of Committee.

I have recently made some experiments to determine the antiseptic power of mercuric oxide. In the proportion of 1 : 1000 it has prevented any development of microorganisms in veal broth, inoculated with two or three drops of "broken-down" beef-tea. In the proportion of 1 : 2000 and 1 : 4000, it restrained development for a time, but at the end of forty-eight hours the broth became clouded near the surface, and at the end of seventy-two hours, had broken down completely. (The same culture-fluid broke down in 24 hours when not treated with an antiseptic.) This very decided antiseptic power shows that mercuric oxide is far from being "inert" from a biological point of view.

Sexual Ignorance.

The *Brit. Med. Jour.*, Aug. 15, says: Recent painful disclosures have, among other results, raised an important question which, in the present state of opinion, can be most readily discussed in the pages of a medical journal. We refer to the complete ignorance regarding the sexual organs and the sexual functions which is permitted, and indeed sedulously fostered, by the ordinary education which boys and girls receive in this country. Not merely does our school-system provide no information on these topics which so vitally concern the happiness of every individual, but the slightest allusion to the subject is apt to be rigorously prohibited, and perhaps branded as obscenity. The result is, that there is a great deal of ignorance on these questions, and a still greater amount of half knowledge, which is more dangerous than either total ignorance or the fullest information. We have the authority of Sir James Paget for the statement that some men grow up, and even marry, in complete sexual ignorance; and that, while this is rare in the male sex, it is extremely common among cultivated and refined women.

The decent veil which we conspire to throw over everything concerned with the reproductive function serves, beyond doubt, some useful ends, and we trust the English people will always be characterized by their delicacy of thought and expression in this matter. But we are convinced that this secrecy, this "conspiracy of silence," has gone too far, and that it is productive of serious evils. We object, in the first place, to it as unnatural. That our educational methods and social practice should permit men, or more frequently women, to marry without knowing what marriage involves, is not merely unnatural, but may be the cause of much matrimonial unhappiness. Parents and school-masters act as if innocence in such matters could last for life, and as if knowledge were a crime.

But a much more serious, because infinitely more common, evil is the objectionable mode in which sexual knowledge generally gets access to the mind. Instead of being conveyed in some plain and matter-of-fact manner, it is too often gained through the corrupting medium of lewd jest or obscene print. At the most emotional and plastic period of life, when new instincts are swelling up and causing great mental disquietude, we withhold from boys and girls the knowledge which nature is instinctively trying to impart, and we leave them to grope their way in darkness, or to seek illumination from some unhallowed source.

Why do the young so often regard an obscene work or print with such fearful but irresistible curiosity? Not from mere depravity, as we often assume, but because they are thus unconsciously seeking information which they have a right to possess, and which we are conscientiously bound to supply in some form which will enlighten the reason, without inflaming the imagination and exciting the passions. Sexual knowledge is not wrong; its tendency is not necessarily injurious; but our mistaken methods of secrecy have undoubtedly the most unfortunate effect of stimulating the imagination to the highest point. We know the baleful fascination of forbidden fruit, not because it is sweet or pleasant, but simply because it is forbidden. This is a notable trait in human nature; but, in our attitude towards sexual questions, we have disregarded, or rather acted in direct contravention of it. The sexual function is naturally powerful, but we enormously increase its attraction for the young by labelling it as forbidden ground.

It is usually easier to indicate a disease than to apply a suitable remedy, but we shall not conclude without venturing a few suggestions. First, let us glance at what is suggested in the very few books which touch upon the question. Many urge that parents should convey knowledge on these questions to their children, at the time of life when external signs and new sensations indicate that the sexual instinct is beginning to awake. But many, probably a majority of parents, are not well fitted to undertake such a duty. Our language is badly provided with the necessary terms; and the untrained parent, ignorant of anatomical expressions, would find it hard to convey the necessary information without incurring the suspicion and, in his own mind, the reproach of indelicacy.

Some advise that the family medical attendant should act *in loco parentis* in this matter, but we are certain such action would be highly disagreeable to the members of the profession. One suggestion alone seems to meet the case; but, fortunately, it meets it most thoroughly. Elementary anatomy and physiology should form an integral part of every education. We might begin by teaching boys and girls the bones and skeleton, the functions of the heart, stomach, etc.; and then, when the suitable age arrives, the structure and functions of the sexual organs might be taken as the natural sequel of the previous portions of the course. In this way, the necessary knowledge would enter the mind naturally and simply, with no false shame on the one hand, and no fillip to the imagination on the other. We are confident that an immense reform would thus be easily and quietly effected, and that much evil and suffering would be averted. We should thus convey, in the most natural and unobjectionable form, knowledge which we have no right to withhold; and we should remove the unwholesome fascination which our present habit of secrecy imparts to sexual questions. Certain it is that the stealthy approaches of vice are favored by the existing system.

It will often be found that there is a prevalent opinion that sexual immorality is to celibates a physical necessity, an attribute of manliness, and even a collateral or prevalent condition of health. This degrading error has been so vigorously denounced by the ablest of modern physiologists, that no one has any longer a pretext for entertaining or promulgating it. It has been the source of much evil, however; and whenever such an opinion is met, it must be energetically denounced.

There is an aspect of the question which cannot be overlooked, especially as

recent revelations have thrown a lurid light upon it. It has been abundantly proved that young girls are often entrapped to their ruin in the most utter ignorance of sexual questions, and of the physical significance of the act to which they are enticed. This is surely a lamentable instance of propriety over-reaching itself. Innocent ignorance is always attractive; but, if it be the means of luring the innocent victim to her doom, it is surely most dangerous. How then is the girl, approaching to sexual maturity, to be made acquainted with the solemn facts of creative act, and guarded against associating them with the base impulses of passion? We commend this difficult question to the thoughtful consideration of our readers. In this respect, also, the mothers and the teachers have a very solemn duty; and it is opportune to ask how, when, where, and by whom, it is best performed.

Prohibited Diet in Diabetes Mellitus.

Dr. A. R. DAVIDSON thus writes in the *Buffalo M. and S. Jour.* for September: Ordinary bread, cake, etc., made with flour, sugar; desserts made with flour or sugar; vegetables, (except truffles, lettuce, romaine, chicory, endive, cucumbers, spinach, sorrel, beet-tops, cauliflower, cabbage, Brussels-sprouts, dandelions, tomatoes, radishes, oyster-plant, celery, onions, string-beans, water-cresses, asparagus, artichauts, Jerusalem artichokes, parsley, mushrooms, and all kinds of herbs;) sweet fruits.

When under dietetic treatment, the quantity of urine becomes normal and the sugar has ceased to be eliminated, some food containing starch may be used cautiously, the urine being examined three or four hours after eating, in order to determine the effect upon the diabetic condition. It is well to allow periods of moderately restricted diet to alternate with the vigorous diet.

During the periods when greater liberty is allowed, or when the restricted diet fails to control the disease, some of the various drugs may be advantageously employed—codeia or opium, quinine, chalybeates, nerve tonics, etc., according to the various indications for medical treatment. Bodily exercise, particularly of the arms, is to be advised. Measures to maintain the warmth and functions of the skin are, at all times, specially important. Warm baths are very serviceable, and warm clothing and avoidance of cold is to be insisted upon, in view of the tendency toward pulmonary trouble.

V. CLINICAL MEDICINE.

Salicylic Acid in Intestinal Catarrh.

Dr. W. A. NORTHBRIDGE thus concludes an article in the *N. Y. Med. Jour.*, Aug. 29:

1. That in salicylic acid and its derivatives we have most valuable remedies in the treatment of diarrhoeas, and especially in those occurring among children during "the heated term."

2. That its remedial powers are due, first, to the anti-fermentative powers of the acid acting locally; second, to an alterative effect through the circulation.

3. That it is an efficient substitute for opium in those cases where that drug is contra-indicated.

Urari in Tetanus.

Before a recent meeting of the Academy of Medicine in Ireland, Mr. M'ARDLE read the notes of a case of acute traumatic tetanus, in which two-thirds grain doses of urari every fifth hour resulted in a cure, the more remarkable effects produced by the above-named doses being relaxation of the contracted muscles in from six to ten minutes after administration, very rapid and tumultuous action of the heart, cyanosis, labored breathing, and dilatation of the pupils. Once the patient was sufficiently under the influence of urari, the evacuations from the bowels were regular. Mr. M'Ardle suggested the combination of urari and pilocarpin, in the hope that the cardiac and respiratory trouble produced by the former might be prevented by the latter. He also showed that urari, to be of service, must be used in large doses, and that the drug is cumulative.

Cure of Gastric Ulcers.

Dr. G. K. TER-GRIGORIANZ, of Tiflis, describes at considerable length (*Proceedings of the Caucasian Medical Society*, No. 11, 1884) an interesting case of round ulcer of the stomach, with severe hæmatemesis, in an anæmic lady, aged 22, in whom, after failure of the administration of Carlsbad salt and nitrate of silver, he succeeded in obtaining rapid and permanent cure from the use of an iced solution of perchloride of iron (six drops of oleum martis, Ph. Ross., in a glassful of water, at first six, afterwards four, times daily, an hour before meals), an iced mixture of equal parts of milk and boiled water, well-toasted white bread, and an ice-bag on the epigastric region. The symptoms disappeared in about two weeks. When seen two months later, the patient was in excellent health. The author resorted to the administration of perchloride of iron in view of its being recommended in cases of gastric ulcer by Professor Gerhardt.

Suppression of Urine in Diphtheria.

Dr. GEO. C. KINGSBURY thus writes in the *Brit. Med. Jour.*, Aug. 15:

E. G., aged 3, was first seen on July 13th. He was suffering from a mild attack of diphtheria. There was a distinct false membrane; but this was easily detached. The temperature was 102°, the skin moist, and the patient had no difficulty in swallowing. No bad symptom arose until July 22d. The throat was now almost well, and the little patient becoming bright and hungry, but during the whole of that day he passed no urine. Diuretics, hot fomentations, and baths were tried, but had no effect. This condition continued during the next day, but there was no apparent constitutional disturbance. During the third day of the suppression, July 24th, the patient began to be delirious, and sank into a comatose condition in the evening, dying just before midnight, not having passed any urine for over 70 hours. It is also worthy of notice that, during the three days the suppression lasted, diaphoretics had no effect, even pilocarpine failing to produce perspiration.

Scarlatiniform Rash Produced by Intestinal Absorption of Ptomaines.

A patient observed by MM. Lépine and Mollière (*Journ. de Méd. et de Chir. Prat.*, 1884,) presented at first nothing abnormal, except an artificial anus, the consequence of a strangulated hernia. One day he was suddenly seized with violent delirium, and M. Mollière noticed a considerable dilatation of the pupils. The skin was covered with a scarlatiniform rash, but there was neither fever nor angina. Poisoning by belladonna was at first suspected; but after a careful examination, M. Lépine came to the conclusion that the symptoms were due to the absorption by the intestine of ptomaine, acting like atropine, and probably similar to that obtained by Zuelzer and Sonnenschein from putrid substances. After a short time, acute conjunctivitis and fever supervened, and the patient died. At the *post mortem* examination, a highly offensive substance was found in the intestine below the artificial anus, so that the possibility of an acute auto-intoxication cannot be disputed.

Naphthalin in Enteric Fever.

Professor Rossbach's favorable opinion of the action of naphthalin in enteric fever and various intestinal diseases led Dr. S. M. KARST, of St. Petersburg (*Meditz. Pribav. k' Morsk. Sborn.*, March 1885, p. 218), to study both the antiseptic property of naphthalin and its therapeutic action in the said affections. With the former aim in view, he took a series of fresh infusions of hay, meat, and urine, and another of the same fluids in a state of advanced putrefaction, and then mixed them all with naphthalin in powder, or saturated them with naphthalin vapor. On examination of the fluids twenty-four hours later, all of them, excepting the fresh urine, were found containing myriads of putrefaction-bacteria. Naphthalin proved capable of checking putrefaction only in fresh urine: hence the author drew the conclusion that the drug possesses a very slight antiseptic property. The results of Dr. Karst's clinical observations were not more satisfactory. He administered naphthalin internally in fourteen cases of enteric fever, in six of

which the temperature ran as high as 40° and 41° C. The drug did not produce the slightest impression on the course of the temperature curve, but caused sickness and vomiting; the typhoid state remaining unaltered. Similarly, the internal use of naphthalin in diarrhæa either had no effect whatever, or made the case still worse. The author takes the opportunity of remarking that "naphthalin administered internally is a good expectorant in those cases where it does not produce sickness."

The Treatment of Rickets.

The *London Med. Record*, August 15, tells us that TEDESCHI holds that the osseous affection in rickets is due to alterations of certain centres of the nervous system, but that the precise seat and nature of these alterations are not yet determined. This hypothesis is based on the insufficiency of the received theories to explain the pathogenesis of rickets, and is supported by the many nervous symptoms which accompany the disease; by the great similarity which the alterations of the rachitic bones have with those provoked artificially by injuring certain nerves, and with those again found in the bones of persons suffering from certain nervous affections; by the perfect and constant symmetry of the alterations produced by rickets; and finally, by the surprising results obtained with galvanization of the spinal cord in 139 cases. Kassowitz teaches that the lesion of rickets is due to inflammation of the bone, the starting-point of which is dilatation of its vessels, and then undue development. Phosphorus, given in small doses, has the property of contracting these vessels, and is, therefore, the specific for rickets. Tedeschi has tried the treatment by phosphorus in 65 cases. He finds that in many cases it is not well tolerated, and its use has to be suspended. In nearly all cases it gave rise to troublesome diarrhæa. He is inclined to attribute much of the benefit obtained by Kassowitz from its administration to his giving it in cod-liver oil. Tedeschi has obtained better results with arsenic. Galvanism is the most successful treatment. Tedeschi has now published 188 cases treated thus. The theory of Kassowitz does not lessen the value of Tedeschi's hypothesis, since there is no proof that the action of phosphorus is on the osseous system directly without the aid of the innervation.

Unilateral Sweating of the Face.

In the *Arkiv. Psikiatris, &c.*, vol. iii., Part I., 1884, p. 53, Dr. M. J. GRABOVSKY, of Kharkov, furnishes minute details of the case of an officer, aged 54, who had been wounded in the right side of the nerve by a splinter of a shell during the battle of Alexinatz (in the Servian campaign of 1871). The wound had been complicated with parotitis and had left a hard linear scar, about two centimètres long and three-quarter centimètre broad, firmly adherent to the subjacent tissues, and running downwards almost vertically between the mastoid process and auricle. From 1877 the patient has presented the following curious phenomena (which, however, do not trouble him in the least). Each time when he begins to eat the right half of the face reddens; the redness by degrees spreads over the right side of the forehead, right temple, and ear. In about two minutes the reddened regions are covered with profuse perspiration, the sweat running down the cheeks in big drops. The sweating ceases with arrest of the movements of mastication.

tion. The temperature of the right cheek, which is otherwise 0.9° C. lower than that of the left, during mastication rapidly rises and keeps at a higher level (about 0.3° C.) than that of the opposite cheek. It returns to the normal level within twelve to sixteen minutes after the stoppage of mastication. The right side of the patient's face is distinctly paretic. Dr. Grabovsky seems to attribute the phenomena to "an injury of certain ramuli of the facial nerve, with subsequent paralysis of the functions of inhibiting the vaso-dilator centres for the right cheek." A closely similar case of unilateral (right) sweating of the face had been published also by Dr. V. Pokrovsky (see Botkin's *Kürs Kliniki Vñutren. Boleznëy*, 1875, Part III.).

Ergot in Hiccough.

Dr. E. BONAVIA, of the British Indian Medical Department, in a short communication to the *Lancet*, after mentioning the usefulness of ergot in various hemorrhages, says: "Very few, however, may have heard that ergot will cure hiccough. Last autumn there was in this district an extensive epidemic of intermittent fever. The police hospital was full of fever cases. One day a policeman was admitted with an obstinate hiccough. He said he had had it for some days, and had no other ailment. I tried many remedies—sedatives, narcotics, antispasmodics, and counter-irritants. I examined his body to see whether there might not be some latent hernia in any part which might be the cause of it, but found nothing. I gave him a large antispasmodic enema, and then a strong purgative. The hiccough went on. I next tried chloroform and subcutaneous injections. As long as their effects lasted, freedom from the distressing spasm was experienced; then it came on again with unabated force. The patient began rejecting his food and everything he took by the mouth. The case was taking a serious aspect, and I thought death would ensue. As a last resource, I ordered the liquid extract of ergot in drachm doses. I did this simply because I knew it had a decided action on muscular fiber. The first dose moderated the spasm, the second did further good, and the third or fourth stopped it altogether. The patient had some rest, but later on the hiccough returned. Three or four doses stopped it again; it never returned, and the man was well. Recently another case was admitted with a similar obstinate hiccough. My hospital assistant gave the liquid extract of ergot at once; after some doses the hiccough was stopped and did not return. I have often given this extract in drachm doses frequently repeated, and have never observed any disadvantages from it. As to the cause of this idiopathic cough, I think it was a chill."

Hemiatrophy of the Face.

Lo Sperimentale says: There are not a large number of cases of hemiatrophy of the face, most of them being collected by Eulenburg in *Ziemssen's Cyclopædia* vol. xii., and to these Dr. Giovanni Mingazzini has added one from his own observation in Rome. P. V., a Roman girl, had had intermittent fever from a child. When aged fifteen she had sudden left hemiplegia, which got slowly better in nine months; soon after this she came back to the hospital with cardiac disease, which she had only noticed, she said, after the hemiplegia. Nearly two years later she began to notice some abnormality of the face as well, and came back to

the hospital with increased cardiac discomfort from aortic disease, and with some hemiatrophy of the right side of the face. She was then eighteen, somewhat excitable, somewhat hyperæsthetic, both knee reflexes were in excess. The right cheek was only slightly atrophied, but flushed on excitement more easily than the left; the lips and nose were twisted towards the right, the right half of the tongue and of the uvula was atrophied; the right eye sunken and rather small and more watery, and on the right side the molar and canine teeth had fallen out. Surface temperatures were carefully taken and showed the atrophied side the warmer in all cases: on the cheeks the difference was as much as 1.5° F., in the axillæ 0.7° , on the sides of the head 0.4° . There was neuralgic pain over the right side of the head, indefinitely localized: no pain was caused by pressure on the cervical ganglia. Surface temperatures have been observed in two previous cases; in one Friedenthal found the affected side warmer than the unaffected; in the other Brunner found it less warm. There are no post-mortem records of such cases as this to guide in determining the pathology, and therefore it has to be founded upon the symptoms in life. In this case Dr. Mingazzini can go no further than to say that an injury of the cervical sympathetic affecting the trophic fibres which run to join the fifth nerve would probably suffice to explain the symptoms; and he would trace the hemiatrophy of the tongue and uvula to the lingual, and the neuralgia and falling out of the teeth to the infra-orbital and inferior maxillary nerves.

Treatment of Pneumonia.

Dr. JOHN BASSIAN, of Broussa, Turkey, in the *Med. Age*, July 25, says that as Broussa is a very hot-bed of lung diseases, and therefore having had large experience in the treatment of pneumonia, he gives a brief outline of his treatment, which has been remarkably successful.

In the first stage of the disease, after giving a saline purgative, if there is constipation, he employs the following prescription:

R. Sodii bicarb., ʒss.
 Inf. de digitale, ʒx.
 Sirop. diacode.
 Sirop. d'ipecac āā ʒss
 M. S.—To be taken daily for three days.

When there is no nausea or vomiting, he substitutes six grains of the soufre dose d'antimoine for the soda, at the same time covers the chest with an emollient cataplasm, and gives nothing more nutritious to eat than soup, made of meat, broth and rice.

In the second stage of the complaint, he gives the following:

R. Decoct. polygala ʒx.
 Kermes mineral gr. ij.
 Sirop. d'ipecac.
 Sirop. diacode.
 Cognac, āā ʒss.
 M. S.—To be repeated three or four times a day.

The cognac must be regulated, of course, according to the strength of the patient.

A blister should now be applied to the affected lung.

If there is much fever, he gives the following pills :

R. Quin. sulph. gr. xij.
 Poudre de Dover gr. vj.
 Ext. rhei q. s.

M. Ft. pil. vi.

S.—One pill every hour.

In this stage milk may be added to the soup.

In the third or last stage of the malady, the treatment should be more decidedly supporting.

Peculiar Cases of Intermittent Fever.

Dr. T. PALOP, of Ronda, mentions in the *Génio Médico Quirurgico* two cases of intermittent fever in which he was able to discover and remove the cause, and so effect an instantaneous cure :—1. A young man had suffered for some time with a fever which ran through a regular cycle of modifications every week. On the Sunday a cold stage of about an hour's duration was succeeded by a hot stage of great severity, followed by copious general perspiration and pain situated on the left side of the head. On Monday the fever had disappeared, but the pain remained unchanged till Tuesday or Wednesday, when it extended over the whole head, improvement not taking place till Saturday. Quinine had been prescribed in various ways, and had proved useless. On examination a small fluid tumor was discovered behind the left ear, of which the patient thought nothing. A bistoury plunged deeply into this brought away a little blood and pus. On examination of the wound a dermoid cyst was found in the form of a ring; this was removed, and the patient had no more fever. 2. A working man, who had previously been cured of fever by quinine, on being again attacked by fever of a tertian type, found that similar treatment was of no avail. An inflamed bursa over the patella was aspirated, pus being removed, with the result that, though suffering from a rigor at the time, as soon as the pus was evacuated he exclaimed, "Now I'm all right," and the fever did not return.

Cold Pedal Douche for Catarrh.

In the *Lancet*, August 22d, we read as follows: Medical science often seems to be a compound of contradictions. The hot foot-bath with or without mustard is a popular remedy for colds, whether of the head or chest. The use of the cold douche to the lower extremities for catarrhal maladies is not so well known, and by no means so frequently advocated. Recently, however, M. BOURGAREL has extolled the benefit of the cold douche to the feet in diseases of the respiratory passages. As all the world knows, the object of the pedal excitant is the production of *reaction*. M. Bourgarel maintains that reaction is easily obtained by the application of cold, and for this purpose the douche need not be very forcible or long applied. It is recommended that the cold douche to the feet be systematically used. There can scarcely be a doubt of the value of this treatment, provided the cases in which it is prescribed are suitable. As a general tonic to the circulatory and nervous systems, the application of cold water under some pressure to even a small area of the superficies of the body stands in a high place.

The beneficial effect on the system at large reflects itself on those parts which are in a less healthy or atonic state. And so it follows that the remedy in question may put the finishing stroke to a chronic catarrh. That the temporary shock and subsequent reaction implied in the cold douche may also prove of service in spasmodic attacks is not without the bounds of physiological reason.

Laryngeal Typhoid.

The *Practitioner*, quoting from a French journal, says that Dr. Paul Koch, after an exhaustive study of the larynx in typhoid, arrives at the following conclusions :

1. True laryngo-typhoid has an actual existence ; it coincides always with the acute period of the general disease.
2. If symptoms of laryngeal stenosis are manifested during the period of convalescence from typhoid fever, they are an expression of perichondritis, which is generally manifested in acute attacks of the disease, of long duration.
3. Operation is indicated as soon as the symptoms of laryngeal stenosis become persistent.
4. It is always necessary in performing deep tracheotomy to avoid the cricoid region.
5. It is necessary to abandon the perichondrial and peri-laryngeal inflammations to their natural course, which is very long, and not to attempt to hasten their cure.
6. If after recovery the patient is unable to pass a cannula, two methods of treatment by mechanical resources remain, and, as a last resort, resection of the larynx may be performed.

Phosphide of Zinc in Dysmenorrhœa and Sterility.

The *Med. News*, September 5th, says: In MATTHEWS DUNCAN'S lectures on *Sterility in Women*, he places dysmenorrhœa in the list of the best demonstrated sources of, or attendants on, such conditions. But, even if we consider dysmenorrhœa the cause of the sterility, the question of the treatment of the menstrual difficulty does not in many cases admit of ready answer. Certainly there are cases of dysmenorrhœa which may be rapidly and satisfactorily treated by dilating the cervical canal, this dilatation being by double-bladed dilators, rather than by other means. But there remains a large number of cases that present no indication for this method of treatment, and which, of course, are not benefited if it be tried. Now, some of these may possibly be cured by the use of phosphide of zinc, as recommended by Decoux in a recent number of the *Gazette des Hôpitaux*. Having found this medicine useful in many cases of dysmenorrhœa and of amenorrhœa, Decoux narrates a case where it twice proved effective in curing sterility associated with the former disorder. In addition to the success of this medicine in dysmenorrhœa, amenorrhœa, and sterility, he has found it remarkably useful in cases of hysteria, ataxia, anæmia, and neuralgia. He gives two granules of four milligrammes each, morning and evening. Only the crystallized preparation should be used, as the powder is inert. He states that its preparation is so difficult that, with a single exception, one scarcely finds in commerce any but an impure product, which is partly or completely ineffective.

Nervous Colic.

In the *Lyon Médical*, Dr. SHERSHEVSKI reports a number of cases of colic which seemed to be due to a neurasthenia of the nervous elements of the intestinal canal. They were all in intelligent individuals, whose work was chiefly with the head. These persons suffer habitually from constipation, with abdominal distension and burning eructations, but without loss of appetite. From time to time, under the influence of prolonged intellectual work or of mental emotions, an aggravation of this condition occurs, with the following symptoms: Excessive meteorism with or without a discharge of gas from the bowel, superficial panting respiration, cyanosis, pains in the neighborhood of the liver or in the umbilical region, or shifting, or feeling of weight in the lower part of the abdomen and severe tenesmus. The attacks subside after some days with the occurrence of copious evacuations. Shortly before their onset the fæces become flattened, as if there were an intestinal stricture. The author attributes these symptoms to a lesion of the nervous system producing an intestinal spasm located in the circular fibres of the muscular coat. This theory of the etiology would seem to Dr. Shershevski to be demonstrated by the action of the remedies employed. For, while purgatives increase the pain and constipation, opium and belladonna reduce the meteorism and cure the attacks.

Ipecac in Pneumonia.

The *Weekly Med. Review*, Aug. 22, says that Dr. VERADINI, chief of the Bologna Grand Hospital, has made a careful clinical study of the depressing effects upon the circulation of ipecac in true pneumonia. He concludes and formulates as follows:

1. That large doses of ipecac were given empirically in fibrinous pneumonia by the leading physicians of the past century, on account of its depressant, antiphlogistic power.

2. That the employment of ipecac in large doses (2-4-6-8 grm.) does not have any evil effects, such as circulatory stasis, heart paralysis, and that nausea and vomiting seldom follow.

3. It is beyond doubt that such doses have a salutary influence in moderating the pulmonary congestion, in facilitating resolution, and, that, too, without any risks to the patient.

4. The large doses produce effects directly opposite to the emetic doses or principles. Ipecac so given produces, as stated, pulmonary ischemia, while emetics, as experimentally proven, are attended by congestion or active hyperemia.

5. This comparative action of ipecac and of emetics on heart and lung can be demonstrated experimentally on animals with induced pneumonia.

The Chin Reflex.

Dr. MORRIS J. LEWIS has contributed the following to the Philadelphia Neurological Society, February 23, 1885, (*Polyclinic*, June 15, 1885.)

In the winter of 1882, while examining at the Infirmary for Nervous Diseases connected with the Orthopædic Hospital, Philadelphia, a case of section of the

inferior dental nerve, I discovered a new reflex. For report of case see *Phila. Med. News*, March 11, 1882. This consists of a sudden elevation of the lower jaw immediately following a blow upon the lower teeth, or chin, and is most easily produced by striking the parts mentioned in a downward direction with a rubber plexor. The mouth of the patient is of necessity open, and the muscles should be relaxed.

Since then I have observed this symptom in two cases of spastic paralysis, one case of congestion of the spinal cord, one of cerebral tumor, probably specific, one of hemiplegia, one of unilateral tumor of doubtful origin, and occasionally in perfectly healthy individuals.

In some of these the reflex was plainly due to a contraction of the temporal muscles, while in others the masseters seemed to be mainly instrumental in causing it. The clinical significance of this symptom is not as yet clear, but I wish to place it upon record, and to direct attention to it, hoping later to be able to report more fully.

Gowers, in his "Diseases of the Spinal Cord," mentions that irritation of the skin in the intrascapular region gives us the highest reflex available; the *chin reflex* is, therefore, of considerable interest, 'as being, as far as I am aware, the highest deep reflex yet discovered.

Aphonia and its Treatment.

Dr. JAMES MACMUNN thus writes in the *Lancet*, July 25:

Many years ago I was treating a young girl about thirteen years of age for nervous, or so-called "hysterical," aphonia, and tried in vain counter-irritation, inhalations, electricity, and tonics. Constitutionally the girl was neither nervous nor hysterical, nor were the parents; and being of a non-emotional turn, she was most unlikely to be cured by psychical impression. Having failed to cure the condition, her father requested me to accompany the girl and himself to a "quack who would soon cure her." Pride and long-continued defeat not being compatible, I acquiesced. Having arrived at the house of my professional brother—a cobbler in general avocation; a specialist in throat affections—the "professor" bade the child sit down upon a low, uneven, three-legged stool, the rocking propensity of which ought to have called even paralyzed adductors into action. The specialist having carefully surveyed the inside of the mouth, at once declared that the "arch of the palate was down." The treatment was plain—it must be lifted. Wrapping his apron (less clean than his waxed fingers) round the fingers of one hand, he applied them to the upper front teeth, while he supported the occiput with the other hand, and without further ceremony he lifted the child from her seat two or three times. The girl got up, and was able to speak quite normally. The affection, however, relapsed after some days, but was again cured by the same procedure.

Now, I fancy, many would think that this cure was a mental one. Circumstances, however, render this explanation untenable, without even mentioning other cases which would go to disprove it. I will not trespass on your space further, except by stating that long before I heard of nerve-stretching I looked upon the result as above indicated as being due to tension exercised on the recurrent laryngeal nerves, as they wind round the subclavian and aortic arch by

the forcible extension of the neck. This, however, may not be the correct deduction.

Electrical Treatment of Paralysis of Motility.

Dr. AMBROSE L. RANNEY, in the *N. Y. Med. Jour.*, September 5th, says that there are certain general rules that are applicable to the electrical treatment of paralysis of motility, which may be stated as follows:

1. The treatment should not be alone confined to the region of the paralyzed muscles.
2. The seat of the exciting lesion should be ascertained early, if possible, and subjected to the influence of this therapeutical agent in an intelligent way.
3. If the motor paralysis is accompanied by anæsthesia, hyperæsthesia, or other sensory disturbances, or if the vaso-motor system of nerves be apparently implicated, the wire-brush may often be used with advantage upon the skin in the vicinity of the lesion, and also over the muscles paralyzed.
4. Faradaic currents (provided they excite muscular action), or the cathode-pole of a galvanic battery (with interruptions of the current), are of use in exciting the conductivity of the nerve-tracts affected. Static electricity is also of great utility in inducing muscular contractions, and is less painful than faradism or galvanism.
5. The "combined current" (galvano-faradaic) is chiefly of service in overcoming trophic disturbances, which often manifest themselves in connection with motor paralysis.
6. I prefer labile applications to stabile in applying either faradism or galvanism to the muscles. Stabile applications are preferable to labile when the brain, spinal cord, or peripheral nerve-trunks are to be influenced.
7. Never begin the use of electricity immediately after the onset of paralysis (when due to a central lesion). It is always best to wait until all danger of exciting a recurrence of the attack by stimulation of the nerve centres has passed.

Reflex Epilepsy Caused by Adhesion of the Prepuce to the Glans Penis.

Dr. F. W. PARHAM thus writes in the *New Orleans Med. and Surg. Jour.*:

Thomas Mouladdie, aged six years, was admitted into Hotel Dieu, April 7th, 1885. He was a bright, good-natured little fellow, in excellent general health, notwithstanding the nervous manifestations to be noted. He was at that time and had been for some time subject to short spells, marked by spasm of all the voluntary muscles, especially those of upper half of body, associated with loss of consciousness. He had been known to have as many as fifteen such attacks in twenty-four hours. He had during the first twenty-four hours after admission no less than ten. In several of these I saw him and watched him carefully. They came on without apparent provocation, lasted less than one minute, and when a fit had ceased he usually fell asleep and slept quietly for some time afterward. These attacks resembled ordinary epileptic seizures. Not being able to make out from the history any cause for the attacks, I examined the penis. The prepuce, though abnormally long, was not contracted at the orifice and did not necessitate circumcision. The mucous layer, however, was found adherent to the glans

penis half-way to the meatus. The adhesions were easily torn away and the prepuce carried back and separated from the glans by a pledget of lint.

Bromide of potassium was ordered in ten-grain doses every two hours for the first forty-eight hours, then every three hours, and subsequently every four hours until his discharge, April 24, one week after admission. For twenty hours preceding his discharge he had not had an attack, and the physician who sent him to the city wrote me two months afterward that no attack had occurred since his discharge from the Hotel Dieu. The doctor in the same letter expressed the opinion that the bromide salt had had little or nothing to do with the cure, since he had himself previously administered it freely and continuously without effect.

Creasote Water as a Local Anæsthetic.

In the *Ephemeris* Dr. E. R. SQUIBBS writes: The officinal aqua creasoti, or creasote water, is so important as a preparation for one special use that it is well to notice it in order to emphasize that special use. It is a simple one per cent. solution of wood creasote in water, and, like similar solutions of carbolic acid and of cresol, it is a most effective local anæsthetic and topical dressing to burns and scalds. It is no better than the solution of carbolic acid, or of coal tar creasote, for this purpose; but it is quite as good, so that whichever is most accessible or most convenient may be used. This creasote water, as made by the above formula,—or diluted with an equal volume of water, or with more water for delicate surfaces in women and children,—and applied by means of a single thickness of thin muslin, or worn-out cotton or linen, such as handkerchief stuff, and the application renewed from time to time, as the return of pain requires it,—will relieve the pain of burns and scalds in five to ten minutes, and will maintain the relief as long as the applications are properly renewed, or until the painful stage is over. It is also very effective as a local anæsthetic for general use in all painful conditions which affect the surface only, such as the pain of erysipelas. The benumbing effect of these phenols upon the skin is very promptly reached, and can be carried to almost every degree that is desirable, by simple management of the strength of the solutions and the mode of application. They are true anæsthetics to the skin, while the much-lauded cocaine is not. This statement has been published so often during the past twenty years, and the treatment has been so effective in so many hands, that it is wonderful to notice how the common practice is still to use the old and comparatively useless hot dressings, such as carron oil, white lead ground in oil, flour, liniments, etc., or the newer application of solution of bicarbonate of sodium.

Prolonged Catalepsy in a Soldier.

The *Lancet*, August 22, says cases of prolonged catalepsy, though much more rare in males than in females, are not absolutely unknown. *La Enciclopedia Habana* publishes the case of a Spanish soldier aged twenty-two, at the present time in the military hospital of San Ambrosio in Cuba, who has been in a cataleptic state for fourteen months. He is emaciated, though perhaps less so than might have been expected. The decubitus is described as indifferent, his body remaining in any position in which it is placed, the eyelids quiver constantly, and the facial muscles contract so as to give somewhat the appearance of dementia.

He is apparently insensible to pain, but the pupils contract under the influence of light, and the eyeballs rotate so as to avoid light. The respiration, pulse, and cardiac sounds are almost imperceptible; the temperature remains stationary at 36.4° C. His nourishment, which at the beginning of the cataleptic condition had to be limited to about a kilogramme of milk in the day, has been increased gradually to three kilogrammes, and to this some soup or extract of meat and thirty grammes of quinine wine have been added. Defecation and micturition take place regularly. Occasionally he has sneezed or coughed, and is reported by the occupants of neighboring beds to have uttered words during the night. The treatment has included strychnine, bromide of potassium, tonics, subcutaneous injections of ether, and faradization; but little effect seems to have been produced by anything that has been tried. There is, however, now slightly more movement than there was several months ago, and since he has tolerated more nourishment his weight has increased more than 10 lbs. As usual in these cases, no distinct cause can be assigned for the disease. It is noted that for some months before it declared itself the man had suffered from extreme depression with anæmia, which was attributed to nostalgia; he then began to have attacks of temporary or intermittent catalepsy, which culminated in the condition above described.

The Treatment of Chorea.

The *Lancet*, July 11, says M. JOFFROY, in a clinical lecture upon chorea given at the Hôpital des Enfants Malades, Paris, advocates the prescription of chloral in this disease. He stated that in 1879 he administered the drug in two very severe cases in gramme doses every quarter of an hour until sleep was procured, the same dose being repeated whenever the child awoke. In that way he procured for the patient a continuous sleep, broken only twice in the twenty-four hours for the taking of food. The chloral was omitted in the one case at the end of four days, in the other at the end of five days, "not daring to prolong this deep and continuous sleep any longer." Marked improvement followed this somewhat heroic measure. His usual practice is to give chloral three times a day, and to continue it for a fortnight, a month, six weeks, or two months, according to circumstances—indeed, until a cure is effected. He has had no ill results from this treatment, and only occasionally has he observed a fugacious roseola or erythema, which lasted for twenty-four hours and disappeared without discontinuing the drug. The object of this treatment is to procure as much sleep as possible, and the dose is of course proportioned to the age of the patient. Above the age of ten the daily dose is four grammes (i. e., sixty grains) taken after meals, one gramme in the morning, one at midday, and two in the evening. Between the ages of six and eight the total amount must not exceed three grammes daily, and the quantity administered must be graduated so that the largest (evening) dose should produce sleep within a quarter of an hour; and, as stated, it is continued until the choreic symptoms have disappeared. By this method he claims not only to prevent the serious complications that arise in the severer cases, but to appreciably diminish the duration of the affection. Curative as M. Joffroy believes chloral to be in its action, there are, he admits, some cases which resist its influence. These are severe and violent cases, and for them he

employs the wet pack in addition to the sedative drug. The body being enveloped in cloths soaked in cold water, vigorous rubbing is employed from head to foot; and when, after one or two minutes, reaction sets in, the patient, still enclosed in the pack, is completely enveloped in wool and left there for half an hour. This measure is always followed by a period of repose, the child generally passing into a deep sleep, on awaking from which the choreic movements are much diminished. The same treatment is applicable to all cases.

The Phosphorus Treatment of Rickets.

The *Edinburgh Med. Jour.* for Aug., tells us that Dr. GRIEBSCH in the *Jahrbuch f. Kinderheilkunde*, gives an account of the results of this mode of treatment in the Children's Polyclinic of Berlin, under Henoch's care. It was adopted there in consequence of the glowing accounts which Kassowitz gave of his success with it in Vienna. The drug was administered exactly according to his directions, and its effects were carefully watched in forty-one cases. It was administered to many more, but they were lost sight of. The results were not brilliant, hardly satisfactory. Four cases were cured, eleven much improved, in twelve there was no improvement, and six got worse. In fact, some doubt is expressed as to whether the drug is a safe one to use in all cases. It is to be remembered, however, that all the cases were treated in the out-door department, and in all probability the general hygiene was bad and the drug often neglected. The next paper in the same journal is on the same subject, and comes from Vienna, and the difference in the results obtained and opinions expressed is striking. Dr. Hochsinger gives a review, in the first part of the paper, of the opinions expressed by others since Kassowitz's observations were published more than a year ago, and shows that out of seventeen authors, thirteen are agreed that they have obtained better results with this method of treatment than with any they had previously used, while the other four give a doubtful or almost negative sound—none absolutely negative. Among those who found this treatment successful are four professors of Pediatrics and four physicians to large hospitals. The cases observed by himself for a sufficiently long time numbered 487; the percentage of children with rickets coming for treatment having increased enormously during the last three years. In only a very few cases did the drug disagree, and then it was successfully resumed after a short interval. He has nothing new to add to Kassowitz's statements, but fully confirms them. The results are divided into four classes, viz.,—splendid, 47 cases; very good, 192 cases; good, 236 cases; delayed, 12 cases. By "good" he means to denote that there was a steady and continuous improvement all the time they were under observation, and dating almost from the first dose. By "very good," cases which were unusually severe or presented some single symptom in a very severe form, and yet improved or recovered very quickly. By "splendid," cases in which all the symptoms disappeared with quite an astonishing rapidity. In the "delayed" cases the improvement was not steady, and the recovery was very slow. This is accounted for, generally, by some intercurrent malady, such as measles or whooping cough. In no single case did the symptoms of rickets become worse while under the treatment. The paper concludes with detailed accounts of the effects produced upon the separate symptoms of the disease by the use of phosphorus.

Gout, Diabetes, Renal Colic, and Impaction of Calculi in the Urethra.

Dr. M. R. J. BEHRENDT thus writes in the *Brit. Med. Jour.*, June 27: J. B., a tall stout man, a farmer, was subject to fits of acute gout. I was first called on to attend him for an attack on February 16, 1878. He seemed to make a speedy recovery, but left his bed too soon. On February 28th, I was sent for, and found the patient as ill as ever. This attack did not subside as the former, and after the great toe-joint, various others, of the lower and upper extremities, became affected, including the knee-joints; the patient recovered, and I ceased attendance on June 26th. He was now sent to Buxton for a change, and returned much improved. There was a return of the disease in the end of December, and lasting to some days in January, 1879. He again had a prolonged attack, commencing December 15, 1880, and ending April 15, 1881. On December 28th I was sent for, and found the patient suffering from diabetes mellitus. For this he was under treatment till April 14, 1882. On October 22, 1882, he had an attack of renal colic. Diabetic symptoms reappeared again in January, 1883. I saw him on this account on January 26th. He remained under treatment till May following. In September, there was a recurrence of the disease, lasting till November 9th. During the time from January to May, he had several short attacks of gout; and, whilst these lasted, the diabetes disappeared, but returned as they subsided. About September 18th, he had another attack of renal colic. This was followed by faecal obstruction, relieved by injections of soapy water. On October 20th, I was sent for, as the patient could not pass urine. I removed with dressing-forceps an uric acid calculus of irregular oval shape, measuring a quarter of an inch in one, and five-sixteenths of an inch in the other diameter, from a point just behind the glans penis. On October 3, 1884, I was again sent for. I found a hard nodule occupying a place somewhat behind the terminal half of the urethra, and, by using a probe, made out its nature, but could not get hold of it with any instrument I had. In order to give him relief, I tried to pass a soft rubber catheter beyond the obstruction, and succeeded. In passing the catheter, the calculus was very slightly displaced backwards; but on removing the instrument, the stone seemed to get wedged against it, and was brought somewhat in advance of its old position, but still I was unable to grasp it. I limited myself to passing the catheter twice daily, and made attempts to remove the stone by such means as I had. On October 6th, at my second visit, I had again passed the catheter carefully, and, in withdrawing it, the stone moved forward considerably, so that I was now able to grasp it in my dressing-forceps and extract it; a few drops of blood followed.

This patient, during his attacks of gout, passed large quantities of uric acid (red sand). The discharges of this substance were always coincident with amelioration in the gouty symptoms. Fearing the formation of larger concretions, I ordered him citrate of lithia, in ten-grain doses, which always had the effect of causing the uric acid deposit in the urine to disappear. I also ordered him to drink with his meals lithia-potash water, which was prepared for me by Blake, Sandford, and Blake. Each bottle contained five grains of lithia citrate and ten grains of potash bicarbonate. But the patient did not persist sufficiently in the use of this water. The second calculus was also somewhat oval in shape, flat-

tened on one side, and measuring somewhat more than a quarter of an inch in one diameter and three-eighths of an inch in the other.

The External Application of Sulphide of Calcium in Smallpox.

Dr. J. A. M'ARTHUR thus writes in the *Canada Lancet*, for July; Several years ago, Surgeon-Major C. J. Peters, of the British army of India, experimented with sulphide of calcium as an external application in small-pox, and although the cases were few in number, six, I believe, yet such were the favorable results in each and every case, that he was induced to give an account of the treatment adopted. So favorably impressed was I with the success of the treatment, that I resolved to employ it, the first opportunity that occurred.

On the 10th day of April last, I was instructed by the Provincial Government to proceed to the town of Emerson and take charge of a case of smallpox that had recently broken out in that place. The patient was a young woman, about 23 years of age, and previous to the present attack, was in good health. The form of small-pox was the confluent—the patient never having been vaccinated—and one of the worst cases I had ever seen. The day on which I first saw her was the 9th from the initial stage of fever and the 3d of the pustular stage. The face was terribly swollen and she was unable to see. The conjunctivæ, mucous membrane of the mouth, and the tongue, were thickly covered with pock. The face, neck, arms and limbs as high up as the knees were literally covered, so much so, that a pin-head could not be put down without touching them, while on the backs of the hands and soles of the feet blebs as large as a half-dollar piece could be seen. There was low muttering delirium, and the symptoms present indicated extreme prostration and a speedy termination of the life of the patient.

Feeling that this was an almost hopeless case and one which would test to the utmost the merits of any remedy, I determined to apply the sulphide and watch the results. The patient's face, neck, arms to the elbows and limbs to the knees were painted twice daily. The application was made with a brush, and not with a feather as recommended by Dr. Peters—the work being done much more quickly and thoroughly with the former than the latter. The third day after the application of the remedy, and the twelfth of the disease, the patient showed signs of improvement. The low muttering delirium passed away, the swollen features assumed their more natural and human character, while the pustules showed signs of shrinking. There was no secondary fever, and at the end of the fifth day from date of application the pustules were literally shriveled up, without giving out any of their fluid contents. In a word, the disease was aborted.

The sulphide is evidently absorbed and acts in a constitutional manner, for the pustules on the parts of the body and arms not painted, shrivelled and dried up equally as rapidly as those where the application was made.

Another important feature noticed, was the entire absence of itching and desire on the part of the patient to scratch. At no time did the patient feel any desire in that direction, and the sickly, deathly exhalations, so characteristic, were scarcely perceptible. An examination of the patient's face last week revealed no pitting—a very important consideration. The blinds were not drawn nor the room darkened, but a flood of sunlight was permitted to enter the room,

and the freest ventilation possible enjoyed. With the exception of slight ulceration of the cornea of the right eye and a slight attack of pleurisy of the right side, the patient made a rapid and successful recovery. The patient was kept on milk diet throughout, and only mild diuretics were employed as occasion required.

The liquid is prepared by boiling a quarter of a pound of quicklime and half a pound of sulphur in five imperial pints of water until the liquid is reduced to three pints, when it is filtered and kept in glass-stoppered bottles. It is applied to the affected parts two or three times a day with a brush or feather, taking care that none of it gets into the eyes.

The writer believes that the lotion acts by destroying the germs of the disease, preventing suppuration, and guarding against the complications that result from blood poisoning.

Changes in the Blood Supply of the Brain.

Dr. S. G. WEBBER thus writes in the *Boston M. and S. Jour.*, September 8d: Congestion of the brain may be accompanied with so severe symptoms, with such immediate danger to life, with such unnatural fullness of the arteries, with such strong action of the heart, that general bleeding is indicated. These cases are, however, rare, and such bleeding would not be advisable in any except a robust and plethoric patient. Local bleeding by cups or leeches would be beneficial in a larger number of cases. In the severer forms, when it is not desirable to withdraw blood, means may be taken to increase the flow of blood to distant parts of the body, as by hot foot-baths or mustard foot-baths; or to diminish the amount of blood by acting on the bowels, by saline cathartics, croton oil, etc.: or by promoting copious sweating by hot-air baths, steam-baths, hot-water baths, keeping ice on the head. Jaborandi acts especially on the skin; but as it frequently gives rise to violent vomiting, it would be hardly safe, lest the straining in vomiting should increase the congestion.

Cold applications to the head—ice, a rubber tube coiled up with cold water running through it, evaporating lotions—may give relief; but to be of much benefit, the application must be continuous.

When there is violent delirium, mania as one of the most marked symptoms, it will be frequently found that there have been circumstances tending to render the brain excitable. The measures already mentioned may be employed; sometimes a wet cup to the back of the neck taking a few ounces of blood aids in giving relief; sometimes a dry cup gives equal relief. Bromide of potassium and chloral, in doses sufficient to produce sleep, are especially indicated; from thirty to sixty grains of each. Small doses of chloral repeated hourly have no effect, but rather aggravate the symptoms, and the combination of the two drugs is more efficacious than either alone. Hyoscyamus will often procure sleep and quiet if given in large doses. In cases of mania from cerebral hyperæmia, opium should not be given, but during delirium from anæmia it may be beneficial.

Where the hyperæmia is chronic and has been produced by excessive mental application, or by constant emotional excitement, the first indication is to remove the cause. The patient should drop his studies, his business, whatever has intensely occupied him, and withdraw from all associations which give rise to emo-

tional disturbance. A quiet, regular, systematic life, with easily digested, mild food, is the most favorable. Bromide of potassium, without chloral, fifteen or twenty grains, three times a day. Bromide of sodium, lithium, calcium, or ammonium, have been used instead, and are more agreeable to some patients. Ergot, either as fluid extract, half a drachm to a drachm, or ergotin, three to five grains, three times a day. Ice to the back of the neck will sometimes relieve the discomfort in the head better than when applied to the head directly.

Most cases of chronic cerebral hyperæmia are also complicated with nervous exhaustion, and it may be desirable to give tonics to counteract the exhaustion. The vaso-motor nervous system is at fault, and requires not only a temporary stimulant to cause the arteries to contract, but it needs also to be permanently strengthened. A systematic course of hydrotherapy may be of value in this direction; also the ordinary tonics.

The chief object of these remedies is to restore the normal action of the arteries and the vaso-motor nerves. To do this, iron, strychnia, arsenic, quinine, zinc, nutritious but unstimulating food, are the most valuable agents. Spirituous liquors are to be avoided; tea and coffee taken only in moderation, if at all; tobacco should be forbidden. It is scarcely necessary to mention that the digestive and other functions should be kept in a normal condition.

Those who have had attacks, or who seem liable to attacks of cerebral congestion, should avoid public gatherings, where the air is liable to become impure and heated, and where there is more or less excitement, as theatres, concerts, balls, etc. They should be quiet in all their movements, avoiding exertions which would cause an increase of blood-pressure in the brain, as running, lifting weights, straining at stool, and venereal indulgence. They should sleep in cool, well-ventilated rooms; better on a hair mattress, with head elevated. They should take exercise in the open air, but avoid being chilled in cold weather. All intellectual efforts which produce the least discomfort in the head should be avoided. As one cannot stay at home, surrounded by familiar objects, without the mind running more or less in its old ruts, and being recalled by old associations into old trains of thought, it is especially important to break up all such associations in cases of chronic hyperæmia, and, where the patient's health permits, travelling or a sojourn away from home is very desirable. Often it is the method whereby quickest relief can be obtained.

On the Treatment of Diphtheria.

Dr. H. KURNANDER, Surgeon P. and O. Company's Service, thus writes in the *Practitioner* for July :

In my opinion, if a case of diphtheria is taken in time it is generally perfectly amenable to treatment, but treatment must be constitutional as well as local; and the disease being essentially zymotic, antizymotics must be ungrudgingly had recourse to. In a series of ten cases which I have treated, I began with a nauseating emetic* (antimonium tartaratum) so as to equalize the excited circulation and modify febrile symptoms. The bowels were also cleared by a good purgative (mist. sennæ co.). Neutral salines were then given. At the same time the strength of the patient was maintained. For this end the best possible for-

* It is important to select your emetic carefully and not give any one at haphazard.

mula was found to be a mixture of liq. ammoniæ acetatis and tinct. ferri perchloridi, to which were added free doses of potassii chloras, so as to affect the skin, oxygenate the blood, and keep up the strength, a diffusible stimulant being added as circumstances required. The sick room was impregnated with the vapors of creasote, though carbolic acid or Condy would answer equally well, and thymol is an excellent and agreeable substitute. My patients at the same time drank a weak solution of hypophosphite of soda, rendered pleasant to the taste by the addition of a little syrupus aurantii and ice, of which they partook freely so as to get twenty or thirty grains per diem. To others I ordered a drink acidulated with sulphurous acid instead, it being powerfully antizymotic and antiseptic. Small pieces of ice were also allowed to be sucked *ad libitum*. As to local medication I must deprecate *in toto* the application of caustics and irritants to the throat, though I am aware they are recommended, and some use nitrate of silver and nitric acid, or even tear away the false membrane. Here a weak gargle of sulphurous acid or chlorinated water is much to be preferred, and a very excellent and comfortable gargle is about one-third of liq. calcis with two thirds of milk and some glycerine of carbolic acid, about two drachms to the half pint. It dissolves and loosens the diphtheritic secretion, is most comforting, and prevents the spread of contagion from the latter, both locally and generally, acting as antiseptic, antizymotic, and disinfectant, and it will do no harm if swallowed, but rather good. Where the disease is far advanced, and has to any extent invaded the larynx, or has been neglected (as in two cases that came into my care in that condition), there can be but little chance for the patient; and here perseverance in the same remedies, only more vigorously employed, with antiseptic spray to the larynx, produced marked benefit. In these two cases the prognosis was certainly not favorable. In one of them there was invasion of the naso-oral and laryngo-tracheal tracts, and the patient, an adult, suffered simultaneously from hæmaturia, and was *in extremis* on my first visit to him.* Assuming a severer state of things for the patient, it must be clear that all one could do would be only to persevere in the same line of treatment even more vigorously, and to resort to tracheotomy to gain a little time. This very simple operation has rarely done good in diphtheria, and this has been so because the operation has been delayed too long, thus allowing extension of the lesion into the larynx, the trachea, and even the bronchi. I am almost of opinion that even here, were the atmosphere of the sick chamber to be "poisoned" with an antiseptic before, during, and after the operation, a result might be recorded better both for the patient and the interests of tracheotomy. I believe the experience of operators will attest the validity of this statement. I certainly would not hesitate to operate to-morrow if my patient's (diphtheritic) condition were to need it. But I should not content myself with regulating the temperature of his room—that is quite necessary—but I would charge the air the patient has to breathe with an efficient antiseptic. Convalescence was treated by tonics and attention to nutrition. And even in this stage my experience has taught me to keep on with antizymotics though the patient apparently may not require them. Spite of all one can do, the patient may die from asphyxia rapidly; or he may die early from shock on the system produced

* In this instance emesis was clearly contra-indicated. It was not, therefore, had recourse to.

by blood-poisoning; or he may die in a more lingering case from asthenia. But come what may, the rigid adoption of an antizymotic method of managing diphtheria as detailed in this paper, and perseverance in it for a considerable period afterwards, are imperative. In two ill-nourished subjects without tone where the extent of the mischief was decidedly extensive, and adynamia coexisted to an alarming degree, I had recourse to quinia, wine and brandy, to support the powers of life. These patients suffered from extreme pain of the muscles of the pharynx, neck, and tongue, accompanied by difficulty of swallowing and difficulty of articulation, followed by bulbar paralysis. They were successfully treated by nervine tonics, with nervine sedatives, and by hypodermic injection of calabar bean, and locally by derivatives in the form of stimulating liniments. The severe pain was effectually combated by the local application of linimentum belladonnæ and liquor atropiæ in equal parts.

My cases were genuine diphtheria without a shadow of a doubt; but by the plan of treatment above advocated, all my cases, ten in number, made good recoveries.* Having made a point of seeing them about a year later, they were in as good health as ever they had been before their illness, and some of them were even robust.

Aphorisms Pertaining to Temperature During Health and Disease.

Dr. F. H. SCHMITT thus writes in the *Texas Courier-Record of Medicine* for June:

The temperature of the human body is 98° F., or a small fraction more or less.

This normal temperature is no guarantee for perfect health, as is sometimes believed, but any considerable deviation above or below this normal standard can be considered as a sign of ill health.

These deviations are of a remarkable regularity, and are the result of certain influences caused by the abnormal condition of the body.

Deviations are occasionally caused by external influences, but then they are of but short duration and amount to only a fraction of a degree.

Common causes for deviation in temperature during an attack of illness are: Complications, sudden aggravation, costiveness or diarrhœa, retention or evacuation of urine, spontaneous hemorrhages or hemorrhage brought on artificially, transportation from one place or room to another, change in regimen, effects of medicines, or a favorable termination.

The normal temperature in health is to a certain degree fixed; sundry external influences may change the same—as before stated—but a fraction, except in those instances where these influences are or have been the cause of illness.

A constant normal temperature may be considered fair proof of a good constitution.

Greatly increased temperature after external influences is characteristic of an abnormal condition of the body, and observing each elevation in a subject having usually normal temperature, it may be the means of detecting hidden diseases.

Firmness of highly increased temperature we find mostly in typical and highly developed diseases.

* With one exception, viz. the moribund patient referred to in the text.

Temperature is not the only, but in many, if not in most instances, it is the surest scale in estimating the degree which disease has attained.

The temperature during sickness may be normal, augmented, lowered, or may be unlike at different portions of the body.

Normal temperature excludes certain diseases; is evidence of a favorable change having taken place, or is a sign of beginning convalescence.

During abnormal elevation of temperature and after established diagnosis, the elevation at the time and its fluctuations should for some time after be carefully recorded, as prognosis as well as treatment depend to a great extent on these observations.

Elevation of temperature is generally accompanied by peculiar sensations, such as general *malaise*, cold, heat, thirst, or headache, and an increased pulse.

In a few instances we may observe augmentation of temperature during *seemingly* good health and without increased pulse.

Still, even in such cases does the rise in temperature indicate an abnormal condition, and for this reason elevated temperature is of more diagnostic value than the rate of the pulse or even the cheerfulness of an individual seemingly in good health.

The degree of elevation is sometimes proportionate to the degree of frequency of pulse and other signs characteristic of sickness or disease, but more frequently this conformity is defective or entirely lacking.

In cases disproportionate in this respect we should be guided by the temperature.

But one observation of an abnormal temperature, no matter how trifling or how great it may be, is of itself of little diagnostic value.

It only indicates: that the individual is ill (every elevation above 99) or has fever (increased temperature to 102 or 103) or is in extreme peril (very high temperature, 104, 105, 106 or more).

During the hot stage of intermittent fever, the temperature may occasionally rise to 106 or even 107; but owing to the short period this stage generally lasts, may not prove as fearful in its consequences as such high elevation of temperature generally implies. I have observed this on several occasions.

By taking other conditions into consideration along with but one observation of temperature, we may be able to make a correct diagnosis.

Regular fluctuations in temperature during disease are in accordance with the nature and stage, or in conformity with the increase or decrease of the abnormal process.

Taking the temperature at regular intervals during an acute attack of disease should be considered of the utmost importance to the welfare of the patient.

The curve in temperature during illness has its periods and stages, makes plain changes from one stage to the other, and, besides, gives the period of development, the acme and the ending of the morbid process; it also often gives assurance of perfect or imperfect termination.

During convalescence, rise in temperature is the first and almost unfailing symptom of threatening relapse.

After seeming recovery, continuance of but slight increase of temperature is a pathognostic symptom of imperfect restoration or some sequel.

Temperature can of itself, or in connection with other symptoms, be positive proof of impending dissolution.

In a few instances only do we observe lowering of the temperature below the normal, i. e., after a favorable crisis, during the morning remissions of fevers of a remittent or intermittent type, during acute collapse, agony, and, according to some authors, in apoplectic injuries of the brain (coma).

Unequal distribution of temperature in different parts of the body we observe at the commencement of a chill or rigor, during collapse, agony, or during severe lesions of the organs of respiration or abdominal viscera, in skin diseases and in partial paralysis.

The Treatment of Ozæna.

Dr. LEWENBERG thus writes in the *Edinburgh Med. Jour.*, for August: *From the discovery of the microbe proceeds the necessity of exercising an energetically parasitocidal action.* It is necessary to attack the cocci present, removing as many of them as possible and killing those which remain, or at least hindering their vitality so as to prevent their multiplication and their decomposing action. To this end I apply antiseptics by means of a combined treatment, which is made up of three processes employed daily in the case of each patient attacked with ozæna. We shall review them the one after the other.

1st. The *nasal douche*.—I use it with a solution of bichloride of mercury, one of the best known microbicides. I commence with one part of sublimate to 9,000 to 10,000 parts of water, and strengthen the concentration in proportion as it can be borne by the patient. The douche is very easily employed in ozæna, on account of the excessive width of the nasal fossæ peculiar to this affection. I have insisted in several papers upon the utility and harmlessness of this procedure, as also on the manner of employing it, and the necessity of acquainting the patient or the person who takes care of him with the mechanism of this injection before trusting them with its use. It is unnecessary to enlarge on the special importance of these injunctions when a substance so poisonous as the sublimate is in question. I add incidentally that I find it useful with many patients to make them sound the vowel â in order to keep the velum palati raised during the douche.

This manipulation, indispensable though it be, does not alone suffice to apply the medicament to the whole interior of the nose, for it does not make the liquid penetrate into the upper parts of the nasal fossæ, unless we employ pressure and give the patient's head an inclination sufficient to make the neighboring cavities (especially the tympanum) run risks out of proportion to the therapeutic result to be obtained. To remedy this inconvenience I add:

2. The *nasal bath*, which is practiced in the following manner: After finishing the douche the patient inclines his head backwards until the nostrils form the highest point of the naso-pharyngeal cavities. Whilst he remains in this position the nose is *gently* filled by introducing the sublimate solution by one nostril until it comes out of the other, the patient meanwhile breathing by the mouth, or saying â (to keep the velum palati raised). We are thus certain that the nasal cavities are completely filled conformably to the law of communicating vessels.

By means of these two processes, which I have just described, we remove the

greater part of the cocci with the mucus containing them, and we vigorously attack the vitality of the remaining, but the action is only transitory. I therefore employ, conjointly with the preceding manipulations, a third process.

3. After the douche and the nasal bath, the daily treatment terminates with *insufflations of impalpable boric acid powder*. It is necessary to take much care to spread the powder equally upon all the interior of the nasal cavities and the upper pharynx (especially when there exists considerable deviation of the septum), and to reach only these cavities. In order thus to localize the insufflation, whilst it is going on I make the patient pronounce the vowel â, that the velum may remain up, and prevent the powders from falling into the larynx. I recommend this method generally for the insufflations of powders into the nasal cavities; it is specially indispensable in the application of more active substances, such as nitrate of silver, the casual penetration of which into the larynx or its deglutition must be absolutely avoided. I do not know if other writers have thought of this precaution, which I consider important.

The insufflations of boric acid powder are for the purpose of establishing on the walls of the cavities of the nose and naso-pharynx a *reserve or supply of antiseptic material* dissolving itself in the mucus in proportion as it is secreted.

I have chosen *boric acid* because of its harmlessness, a quality so much appreciated in other diseases, such as those of the eye, and its excellent microbicidal action. In my estimation it is more energetic than appears from the tables prepared by Buchholtz, Miquel, and other *savants*. I will now state, in addition to the excellent practical results which this substance has always given me, the *argument* which I used to explain its therapeutic action. We must not judge of the antiseptic power of a body exclusively according to the rank it holds in experiments *in vitro*, but also consider, when it is a question of application to the animal organism, in what concentration it can be borne. From this evidently depends the dose in which, and the lapse of time during which it may be employed. Now, the tolerance of the tissues being very feeble for the substances which much excel boric acid in the tables of these *savants*, whilst it is, so to speak, infinite for this latter body, it follows that enormous quantities of it may be employed. You may even store it in fine powder in organs where the formation permits, for example, the auditory canal, and, in case of perforation, the tympanum (I add, in passing, that I have found it advantageous to prescribe this same powder to combat other decompositions, as, for example, foetid perspirations of the feet or armpits).

Owing to greater tolerance on the part of the organism, one substance considerably less antiseptic than another, according to experiments in the flask, may thus, when it is a question of therapeutics, prove superior to a body more active *in vitro*, but which is irritating to the living tissues. More than that, in trying to utilize for surgery the experiments concerning the action of bactericidal substances on putrescible liquids, such as soup, it is necessary to take into account also the resistance of the living histological elements to the microbes, which aids to a certainty the animal body in its struggles against these invaders.

To return to the treatment of ozæna, patients affected by this disease generally come for advice only when the pathological work is already complete, and a thin mucous membrane covers the atrophied bones. At this stage we can no

longer think of attacking energetically the pituitary, to modify the secretion or even try to suppress it entirely. But we ought to endeavor to act in this direction at the commencement of the affection; the treatment which I have just explained will, I hope, prevent the advent of the pernicious final period of the disease. It would still be possible at this early stage to act vigorously on the mucous membrane by means of the galvano-cautery (especially the cautery acting laterally, invented by me to avoid wounding the septum), as I have already recommended at the London Congress.*

To dare to undertake this energetic treatment it is, of course, essential to recognize ozæna at its commencement, an impossibility until now, but, thanks to the discovery of the coccus, as I have explained above, it is now possible.

Let me conclude the therapeutic exposition by giving one piece of advice, commonplace enough, that of making the patient change his pocket handkerchief frequently, products of the secretion carrying on the work of decomposition outside the body (as in the shoes of those suffering from fœtid perspiration of the feet). I could cite *apropos* of this the case of a wealthy lady who was obliged to burn her handkerchiefs because no one would wash them.

Enteralgia.—A Rare Case.

DR. JOHAN S. CAROTHERS reports the following case in the *Southern Med. Record*:

On the 5th of March, 1885, I was called to see Mr. H. T. S., of this town, who has enjoyed reasonable health his entire life, save what were regarded as occasional attacks of colic, at intervals of several years, supplemented with semi-occasional attacks of tic doloieux, the last being in the year 1876. On arrival, I found him suffering excruciating pain in the region of the rectum.

Inquiring into the history of the case, both as to its antecedents and present indications, I found that constipation was habitual, and an existing torpidity indicated a cathartic treatment to unlock the bowels; and, accordingly, I administered a purgative, and, with it, tested anodynes to assuage the pain. Failing to give relief by any course pursued, I injected hypodermically 15 minims Majendie's solution; it, too, failing to bring relief, I bided my time for over an hour, my patient still in agonizing pain. I then administered, per orem, one grain sulphate morphia, and at once placed my patient in a sitting bath as hot as could be borne, removing the liquid as it cooled down, and replenishing with hot water—which afforded a partial relief, and that only temporary.

In this condition he passed the night and greater part of next day, being as long in the bath as out of it.

A short while after midnight, on the morning of the sixth, his bowels having acted freely, the pain became diffused over the whole bowels, while ever and anon a sharp twinge would shoot up into the chest, causing the most intense suffering and interfering with respiration.

At this instance in the case the point of pain radiation, which had hitherto remained steadfastly in the rectum, now changed and took up position to the left of the umbilicus, near the great flexure of the colon, and there intensified the suffering with occasional darts throughout the whole bowels.

* Virchow's Archiv., vol. xc., 1883, p. 319.

So the day passed, with no intermission, or only of short duration, in the pain, and certainly no amelioration in the general condition of my patient, and, to my great surprise, no febrile reaction, the temperature and circulation remaining about normal.

In the night of the 6th, after a severe paroxysm of pain and dyspnoea, there was a considerable eructation of gas from the stomach, with emission of mucus, when the site of pain again shifted and located in a zone involving the diaphragm, and he commenced hiccupping.

Hitherto I had apprehended invagination in the bowels, and my fears were greatly heightened by this new phase in the protean malady; but the most careful examination failed to confirm my fears, and I assiduously, though tentatively, tried to palliate the distress.

The hiccough persisted despite the routine remedies—morphia, hydrate chloral, chloroform, and the lesser anodynes, not excepting assafoetida and the much vaunted musk, and heroic counter-irritation—four days and nights, and, together with the associate pain, found their own quietus through no interposition of ours, but solely at the behest of the conservative forces of nature, or probably was determinate and governed by time. Be this as it may, they both (the pain and the hiccough) pursued the even tenor of their way, much to my dissatisfaction, and certainly to the great discomfort of my case, for four days and nights, in which he could scarcely eat or drink anything by which to sustain the overtaxed economy.

Now, the main point of interest in the case is not the peculiar and special site of the neuralgia originally, but the protean phases it assumed in this; that it first appeared as a veritable neuralgia of the rectum, with a palpable engorgement of the same, as evinced by the fact that it was impossible to introduce a tube to any extent, and enemas introduced flowed back as fast as injected.

Again assuming the special phase of enteritis, by which we recognized it; the special tenderness or rather augmentation of pain by pressure; tympanitis, tormina, and occasional mucous discharges, the clear-cut symptoms by which that malady is known, save the non-existence of fever, inflammatory pulse, etc., which were wanting. Then the symptoms in the lower bowels subsiding and concentrating, as they did, in the left hypogastric region, and thence radiating over the entire bowels simulating ileus with its concomitant pain, gaseous inflation, borborygmus, etc., wanting only in stercoraceous vomiting; then invading the stomach, producing nausea, retching of mucus, etc., and, finally, attacking the diaphragm, producing an intractable hiccough, which, as before stated, lasted four days and nights. When it seemed that human endurance could bear no more, on the morning of the 10th, every symptom, as if by the magic of limitation solely, yielded the system to "tired nature's sweet restorer." After several hours' unbroken sleep, he awoke refreshed, his tormentor gone, with no visible trace of its ravages, if we except emaciation and an indescribable soreness over the entire bowels.

His restoration to health was rapid, although he could not bear any tonic treatment, i. e., quinine, iron; stimulants were as fire to his bowels. In fact, at no time during his illness could he bear stimulants, though I much desired, and advised their use, and they were repeatedly tried, only to aggravate his suffering.

His kidneys, on the first day of the attack, were more or less affected, and acted sparingly, a dark, port wine colored secretion, with a strong ammoniacal odor; after which, they acted regularly and naturally, both to appearance and quantity.

This analysis, although of necessity a little prolix, is as perfect a picture of the case as the space and circumstances would admit of, and is placed at your disposal with the hope, accompanied by request, that you publish.

Appealing to the known charity of the profession, especially of your readers, whose opinion I seek to know, I ask; Was I right in my diagnosis of the case, and what better line of practice could I have followed than the one vaguely indicated?

The patient returned to his business duties in ten days.

Two Cases of Bronchopneumonia Treated With Bleeding and Ice.

Dr. DAVID B. LEES reports these cases in the *Brit. Med. Jour.* for July 11, 1885:

Case I.—Emily B., a domestic servant, aged 15, but looking older, came among my out-patients at St. Mary's Hospital on January 24th last, complaining of cough, shortness of breath, and sharp cutting pain in the left side. She had been ill for about ten days and thought that she had taken cold from sleeping in a damp bed, having on several occasions awoke during the night to find herself shivering. I found that there was a patch of dullness in the second left interspace in front, and râles over the greater part of the left lung, and also at the base of the right. There was much dyspnœa, and the temperature was over 104°. By the kindness of Dr. Cheadle, I was enabled to admit her into the hospital under my own care. She was at once put to bed, and hot poultices applied to the chest.

January 25th. She had slept fairly during the night, but this morning had much distress in breathing. The dyspnœa was very obvious. There was restlessness; the lips were livid, and the cheeks dusky. Temperature 105°; pulse 136, regular, and fairly strong; respirations 44. The urine was of specific gravity 1030; it contained urates, but no albumen; chlorides were present. The bowels had not been opened during the last four days. The sputum was copious, viscid, not rusty. There was dullness over the whole of the front of the left side of the chest to the nipple-level; the breathing, however, being simply harsh, and not tubular. Resonance was somewhat impaired below the angle of the scapula on both sides; and at both bases, in front and behind, was an abundance of moist râles, heard during expiration as well as during inspiration. These physical signs, combined with the high temperature, seemed to denote a severe bronchitis extending to the smaller tubes, with commencing consolidation of the left upper lobe. Taken with the symptoms of great dyspnœa and lividity, they seemed to render it necessary at once to give relief to the overstrained right heart, without waiting for the slower action of purgatives and emetics. Venesection was, therefore, performed at 11 a. m., ten ounces of very dark blood being drawn off. The relief to the dyspnœa was immediate, manifesting itself even while the blood was flowing; and the lips lost their blueness. An enema was administered, after which the bowels were opened twice.—At 12:30 p. m., the temperature had fallen to 103.6°, the pulse remaining at 136, and the respirations still in number 44, but

much quieter. The patient felt much more comfortable.—At 9 p. m. the temperature was again 105° ; but the lips were red, and the dyspnoea had not returned. An emetic was ordered, to clear the bronchial tubes of the very copious secretion, and a mixture, containing ten drops of antimonial wine and ten grains of bicarbonate of soda, with half an ounce of liquor ammoniæ acetatis, to be taken every four hours.

January 26th. She was relieved by the emetic, and had slept fairly well. The cough was less troublesome; the lips were rather more blue again, and the cheeks somewhat dusky. Temperature 105.6° ; pulse 144; respirations 48. The right side of the chest was forcibly expanded during inspiration, especially in its upper part. The left front was dull from the clavicle to the nipple-level, with bronchial breathing under the clavicle. There was dullness also about the posterior edge of the left scapula. At both bases, râles were heard as before. The heart was normal.

It was obvious that, though the immediate urgency had been met, the pulmonary symptoms were advancing in gravity. It was therefore determined to give up the poultices, which had been used for two days, and to try the effect of cold applications. Directions were given that the patient should be sponged, first with tepid and then with cold water. This change proving pleasant to her, an ice-bag was applied to the left chest at 3 p. m. Immediate benefit seemed to follow. At 8 p. m. she looked tranquil and easy; the lips were redder; the temperature had fallen a degree and a half (to 104°); and the frequency of the pulse had lessened by 28 beats per minute, being now only 116. The respirations were still 46 per minute, but without marked dyspnoea. The physical signs also have improved, there being now fair resonance from the clavicle to the second rib. From the second rib to the mamma there was still dullness, with bronchial breathing, and coarse râle during inspiration only. At the right anterior base there was still moist râle to be heard, during both inspiration and expiration. Pain in the left side continued.

January 27th, The ice-bag had been kept on all night. Slight delirium was observed early this morning. The temperature had fallen continuously, and at 5 o'clock this morning was only 98° . After eight A. M., however, it arose again, and at 4 P. M. stood at 105.8° , the highest temperature throughout the illness. Pulse 126; respiration 40. I found that the left apex was still improving, the resonance having now reached as low as the third rib: and over this area the breathing was fairly normal, only the expiration a little prolonged. There was still dullness from the third rib downwards, but the breathing over it was less harsh, and there were expiratory as well as inspiratory râles. There was still moist sounds at the right base as before. So far there was improvement, but the rise of temperature was accounted for by the discovery of fine inspiratory crepitation at the angle of the left scapula, and bronchial breathing in the axilla. Obviously a fresh portion of lung had been attacked. The ice-bag was continued, and senega substituted for the antimonial wine.

January 28th. The temperature had again fallen to 98° , and the pulse to 82. The respirations still numbered 44. The dullness was now limited to a small area at the anterior border of the left axilla, over which loud moist râles were heard, with hardly any bronchial breathing. There was diarrhoea yesterday, the bowels

being opened twelve times, and she was sick after the medicine, which was therefore changed to quinine. At 2 P. M. the temperature began to rise again, but the highest point which it attained was 103° .

January 29th. Temperature 98° ; pulse 108; respiration 36. She was taking food well. In the afternoon there was another (and final) rise of temperature to 104.2° . I found that the sounds on the left side were still improving, but there was now dulness in the first interspace on the right side, which had hitherto been quite normal, and harsh inspiration as low as the second rib. It seemed as if the right lung were about to follow the example of the left. Another ice-bag was at once applied to the right apex. To my surprise, I found next day (January 30th) the right apex perfectly normal, with good resonance and natural breathing. Pulse 84; respirations 42; temperature 96.7° .

On the 31st the temperature was 98.4° , at or about which it remained: the pulse 84; respirations 36. There remained only some slight impairment of resonance over the left lung posteriorly, and the catarrhal sounds had quite disappeared.

From this time convalescence was uninterrupted, and when I examined her chest, before her departure for a convalescent home, I found everything perfectly normal.

CASE II.—On February 3d, I was asked to see, in consultation with Mr. Langston, of Westminster, a female infant aged $6\frac{1}{2}$ months. She had been seriously ill for two days, and had a slight cough for several days previously. She was believed to have taken cold from exposure to cold winds. The temperature was 103.4° . There was some active distention of the *alae nasi*, with cough, which was evidently painful. On examining the chest, we found that there was only slight impairment of resonance over the right back, with dryish râles over the upper lobes behind, and a good deal of moist râles over the bases, both before and behind. We directed that a large turpentine-stupe should be applied to the chest, to be followed by the use of linimentum terebinthinæ, and that a bronchitis-kettle should be kept constantly on the fire, the temperature of the room being maintained at 65° Fahr. By the mouth, she had been taking milligramme-granules of aconitine and of scillitine; these were now exchanged for similar granules of emetine.

February 4th. Temperature 103.5° (last night, 104°). There was now decided dulness over the root of the right lung, with bronchial breathing and sharp râles. Loud normal breathing was heard over the left lung, with some moist râles at the left base. She was ordered to continue the emetine, and to have large mustard and linseed poultices.

February 5th, 7 p. m. Temperature this morning 103.5° , now 104° . The child had been very restless to-day, and cyanosed. During the afternoon, it was said to have been "quite black" around the mouth. Even by artificial light, it was easy to see that the face was dusky. The respirations were exceedingly hurried. On careful counting, there were found to be 28 inspirations in 15 seconds, or 112 in the minute. The heart's action was comparatively slow, very little more than 100 per minute. Over the right ventricle, the second sound was loudly accentuated; and even amidst the noisy inspirations, of about the same frequency as the cardiac action, the thud of the pulmonary valves could be clearly heard. It

was evident that the strain on the right ventricle was rapidly becoming more than it could bear, and that, unless immediate relief were afforded, many hours would not elapse before arrest of its action would result. Three leeches were immediately sent for. Meanwhile, the child was placed in a tepid bath rapidly cooled. It remained in the bath for five minutes, but the effect was to raise the rectal temperature from 104° to 105° . Probably, a reduction of the temperature would have followed a longer immersion; but the leeches having arrived, they were immediately applied over the sternum. They took well, and the bleeding was afterwards encouraged by a poultice. It was estimated that the amount of blood drawn off was about an ounce, which may be considered equivalent to a moderate venesection in the adult. It was very interesting to watch the immediate relief which followed. Even while the leeches sucked, the breathing became much slower and deeper; indeed, the frequency of respiration sank to the rate of 50 per minute, less than one-half of its former amount. The pulse, on the other hand, became more rapid, and was noted to be fully 120. An hour later, the respirations numbered between 60 and 70, and the pulmonary second sound was found to be much less accentuated. The emetine was discontinued, and it was determined to lay aside the poultices, and try the effect of external cold. An ice-bag was therefore laid over the upper posterior right chest, and directions were given that milk or broth should be administered (without stimulants), and the temperature taken every hour.

February 6th. The child had slept fairly, and the cough was less troublesome. She had taken nourishment well, sucking the bottle strongly, which on the previous day she quite refused. The temperature had been over 104° all night, and for three hours was 105° . The lips and cheeks were still decidedly dusky, but nothing like so much so as the day before. The father said he "would hardly have noticed it to-day." The heart seemed now to have quite recovered itself; there was no accentuation of the pulmonary second, and the action was much more frequent, nearly 200 in the minute. The respirations were about 80. There was less dulness over the inner margin of the scapula, but perhaps a little extension of dulness outwardly, and over this spot were some sharp râles. During the day the temperature fell till it reached 101.7° , when the ice-bag was removed according to instructions. Next day (February 7th) it was noted that there was distinctly less dulness over the scapula, but that at its outer edge the râles persisted. The left lung was now absolutely normal. In the evening, the thermometer again marked 103° , and the ice-bag was reapplied, but was soon removed, as the child was thought to be restless under it. The temperature, however, had fallen to 102.6° in the morning of the 8th, and to 102° in the evening.

February 9th. The temperature was now only 100.3° . The color was much improved, no longer dusky. The cough was looser. The child lay quietly.

February 10th. A sudden accession of pyrexia had occurred, the thermometer standing at 105.6° . There were no new signs in the right lung, but a patch of dulness with harsh breathing was now found over the root of the left lung, which for the last two days had been normal. There were also sharpish râles at the angle of the left scapula. Respirations, 70; pulse, 170. The *alæ nasi* were again working freely. There was no stress on the pulmonary second sound. The ice-

bag was reapplied, and an immediate fall of temperature followed. At 8.45 a. m., when the ice was again applied, it stood at 105.4°; at 10.30 a. m., 102.6° (a fall of nearly three degrees in less than two hours); at 12.30 p. m., 101.6°; at 2.30, 100°; at 4.30 p. m., 98.8°; at 9.30 p. m., 101°. It was directed that the ice should be used whenever the thermometer marked 102°.

February 12. Morning temperature, 103.4°. There was now fresh dulness over the left apex posteriorly, with harsh breathing. Evening temperature, 101°.

February 13th. At 3.30 A. M. the thermometer suddenly rose to 106°. The ice-bag was reapplied, and a rapid reduction followed. At 9 A. M., it was only 102.4°; respirations, 170; pulse, 60. The child seemed fairly comfortable, and inclined to play with a watch held in front of it. The dull spot at the left apex had now quite cleared up, but there was a finger-tip arc of dulness behind the edge of the left scapula. The râles had nearly disappeared.

February 14th. The physical signs in the lungs had now quite disappeared, but the temperature continued to be high (morning 101.5°; evening 104°). This proved to be due to the co-existence of internal otitis resulting in posterior basic meningitis. At all events, most of the symptoms of that disease were present. Under vigorous treatment, including paracentesis of the tympanic membranes, these symptoms entirely passed away; and, after an illness of 7 weeks, the child recovered perfectly, and has since remained well.

I reserve for a subsequent communication the details of the latter part of the case, which are of great interest, my object at present being simply to discuss the treatment of the pneumonia. But to prevent any misapprehension, it will be well to add that the first symptoms of the otitis were present before the ice-bag was first used. The aural inflammation was a part of the original catarrh; and I have seen several cases in which a similar otitis of catarrhal origin (sometimes with, sometimes without, accompanying bronchitis or pneumonia) has caused death by producing posterior basic meningitis. But for further details on this subject, I must refer to a forthcoming paper by my colleague Dr. Barlow and myself.

REMARKS.—The true indication for bleeding in pneumonia seems to be the approach of failure of the right heart to overcome the greatly increased pressure in the pulmonary artery, due either to extensive consolidation of lung, or to overwhelming engorgement. Evidence of this approaching failure was present in each of the cases above narrated. In the former, the necessity for bleeding was in my opinion urgent; in the latter it was not only urgent, but imperative. In both, the relief afforded was marked and immediate. It is doubtful, however, whether it would in either case have been more than temporary but for the beneficial influence of the cold applications. The superiority of the ice-bag to the poultices which it replaced was very obvious in each case. The older patient was conscious of increase of comfort during its use, and the application was therefore continuous, both by day and by night. In the case of the baby, the ice was removed when the temperature sank to 102°, and replaced when a further rise occurred.

Bacteriotherapy: A New Method of Treatment.

The *British Med. Jour.*, August 29th, says Prof. ARNALDO CANTANI has turned to account the hostility existing between various microbes; and, in the first case where the experiment has been tried, the *Bacillus tuberculosis* has been killed by causing the patient to inhale the *Bacterium termo*. The harmlessness of the *Bacterium termo* to healthy animals was first ascertained by giving it in various ways—by inhalation, injection, and by the stomach—to cats, dogs and other animals. The case is briefly as follows: A woman, aged 42, with a large tubercular cavity in the upper lobe of the left lung, was admitted to hospital on April 26th of the present year. Under quinine, cod-liver oil, and other restorative treatment, the patient was rapidly losing ground. The evening temperature was between 100° and 101° Fahr. The expectoration was copious, purulent, and contained elastic fibres and abundance of tubercle-bacilli. Animals inoculated with the sputum became tuberculous. The body-weight of the patient steadily fell. On May 4th, all other treatment was stopped, and daily inhalations of the *Bacterium termo* were commenced; a rich culture in gelatine, diluted with a meat-broth, being pulverized by means of an ordinary spray-producer. The expectoration diminished rapidly until it disappeared altogether. The tubercle-bacilli became fewer by degrees, being replaced by the *Bacterium termo*; and, on June 1st, the bacillus had entirely disappeared, and did not again return. Animals inoculated with the sputum no longer became tuberculous. Meantime, the patient was gaining flesh, and improving in every way. Professor Cantani speculates on the possibility of finding, for every pathogenic microbe, a non-pathogenic hostile one. However, he very wisely does not lay great stress on a single case, nor does he pretend that the *Bacterium termo* is the best microbe to oppose to the *Bacillus tuberculosis*. Outside the body, the bacterium does not always kill the bacillus; and the two microbes are found together spontaneously in tubercular cavities. In the case recorded, however, the conditions are different from those in which the bacillus has withstood the bacterium. The bacterium was given in large quantities, and in a vehicle that was perhaps more favorable to the bacterium than to the bacillus.

Novel Proceeding in Traumatic Tetanus.

In the Muenchener *Medicinische Wochenschrift*, No. 5, 1885, Reichert reports a case of traumatic tetanus that recovered after bloody stretching of both sciatic nerves. The patient was a soldier 21 years of age, who had been bitten upon the shoulder by a horse. Tetanus developed and became most violent. On the 14th day both sciatic nerves were exposed just below the gluteal fold. The nerves were then stretched for ten minutes, both at the proximate and distal portions; the nerves became livid with venous congestion. After the patient awoke from the narcosis, not a single attack returned. The patient was discharged cured, after he had passed through a severe attack of erysipelas.

VI. OBSTETRICS, DISEASES OF WOMEN AND CHILDREN.

Precocious Menstruation.

Dr. JOHN G. CECIL reports this case in the *Louisville Med. News*, September 5: A child was born in Louisville City Hospital on the 13th of April, 1885. The mother was scrofulous; the child well formed and healthy, weighing seven pounds: on the sixth day of its life a small quantity of dark grumous blood was noticed on the napkin. The genitals after close examination were found normal in size and appearance. This hemorrhage continued increasing in quantity without change in quality for three days. The fourth day the quantity was much diminished, and on the fifth it ceased entirely, six or eight drachms being lost altogether. During the flow there was no inconvenience or disturbance of the health of the infant. It passed the next month without showing any hemorrhage, and died of cholera infantum in the seventh week of its life, no return of the menses having occurred.

A Curious Monster.

Dr. R. H. SPENCER writes to the *Med. Record*, September 5: I have recently attended a case of labor in which a female child was born, which is a curiosity. Child presented by the breech, and was delivered after the usual method. The lower limbs are drawn up to the abdomen, and there seems to be no action in the hip-joint; the knees look more like elbow-joints and are also ankylosed, the feet are an exaggerated form of talipes valgus, and at the union of the sacrum and lower lumbar vertebra there is an opening that looks very much like the anus, through which I could pass the end of my little finger, and on doing so it caused bloody serum to ooze from the rectum. The child is now three weeks old and doing well; the opening in the back has nearly closed. The question arises in such a case, as to the duty of the physician in keeping such a child alive. It was my wish to cut the cord and not tie it, but the family objected, as they wished to have it baptized, they being Catholics.

A Case of Abortion With a Peculiarity.

Dr. A. WOOLSEY thus writes in the *Weekly Med. Review*, July 18: Mrs. M., a multipara, came into my observation some six weeks ago. She supposed herself to be pregnant about three months. When I saw her she was extremely emaciated and complained of severe pains. To relieve her an anodyne was given and she apparently improved. Some six weeks after I was notified that the hemorrhage had recurred, with some slight pain. On an examination, the os was found so

patulous that it admitted the finger readily. Feeling that further attempt to arrest the hemorrhage would be useless, ergot was given, and in the course of sixteen or eighteen hours I was notified that something had passed. I immediately called, and found a placenta which looked like one of three months' growth; it was not decomposed, but had the appearance of having been separated for some time. On the inner side the membranes were unbroken; upon opening them with a knife I found an embryo of the appearance of one month's growth.

The peculiarity of this case is the disparity of the fœtus with the placenta.

Bipartite Placenta.

Dr. GEORGE ROBERTSON thus writes in the *Brit. Med. Jour.*, August 22: On August 2d I removed what can only be termed a "bipartite placenta" from a primipara, after prolonged and severe labor, necessitating the use of the forceps. As the placenta showed no signs of coming away, the hand was introduced into the uterus, and the interior surface found covered with strongly adherent placenta. Beginning close to the os, where only an edge could be found, the whole mass was peeled off entire, and removed with difficulty. On examination, two complete and distinct placentæ were found, entirely separated by a clear band of membrane an inch and a half in width. Close to the centre of each the vessels ran a distance of two and a half inches towards each other, along the surface of each placenta, and clear of deciduous membrane only in the last inch, and then united to form an umbilical cord of the usual kind. The appearance of the whole presented a remarkable resemblance to the lungs, and the division of the trachea into the right and left bronchi.

Total Removal of Uterus through Vagina, for Cancer.

The Paris correspondent of the *Brit. Med. Jour.*, says that at a recent meeting of the Académie de Médecine, M. Trelat read a memoir on total removal of the uterus through the vagina in cases of cancer. Santerre, in 1882, and Recamier, in 1829, were, M. Trelat asserted, the first to perform this operation, and were very successful. Nevertheless, fifty years passed before it was repeated. In 1878, the subject was discussed in Germany, and the removal of the organ was effected by abdominal section. M. Trelat, in a course of lectures delivered six years ago, proved by statistics that cancer-patients lived longest when not operated upon. The Bordeaux surgeons, since 1883, have removed the cancerous uterus through the vagina eleven times; five of the patients recovered, and six died. M. Dennis revived the question at the recent Paris Surgical Congress, and three distinct lines of treatment were upheld—partial operation, palliative dressings, and total extirpation of the uterus. Three weeks ago, M. Tillaux and M. Terrier read notes of two cases of cancer, in which they removed the entire uterus; both patients recovered. M. Trelat, a few weeks ago, performed the same operation, and the patient is getting well. M. Terrier again performed this operation still more recently, and the patient died from peritonitis. M. Trelat stated, at the end of his communication, that, when surgeons sought to determine the nature and seat of uterine cancer, as soon as the malady was suspected, extirpation of the uterus through the vagina would be as successful an operation as removal of scirrhus breasts.

A New Symptom of Pregnancy.

Dr. C. REINL, of Franzensbad, (*Prager Med. Wochenschrift*, No. 29, p. 253, 1884), reports a new sure diagnostic symptom of pregnancy in the first month. He learned of this symptom in the clinic of Hegar. He also confirmed his report by briefly mentioning six cases. The women were in the commencement of their pregnancies and all showed the same appearances, viz.: an unusual softness, sponginess and thinness of the lower uterine segment, that is, the part immediately over the insertion of the ligamenta sacro-uterina. This condition is not noticed only when the remainder of the body is hard and firm, but also is quite evident when the remainder is in a soft and elastic condition. The author is of the opinion that through the gravidity the thinnest portion of the uterus, the lower uterine segment, becomes loosened, thinned and very elastic.

While the author considers this a sure sign of pregnancy, yet he does not claim that the absence of this symptom excludes pregnancy. It may, for instance, occur in chronic uterine infraction. To know of the presence of the symptom in question one shall, according to the author, have one finger in the rectum and at the same time bring counter pressure with the other finger upon the abdominal wall, and thus palpate that part of the uterus lying next to the cervix. In pregnancy it is often found that this lower part of the uterus is only about two-fifths of an inch thick.

Puerperal Convulsions Successfully Treated by Hypodermic Injections of Morphia.

Dr. ROBERT FAIR FRAZER thus writes in the *British Med. Jour.*, August 29: On June 19th last, I was called upon to see Mrs. S., aged 20, living in this neighborhood, who was on my books, and expected her first confinement at the end of July. Her face and hands were swollen and oedematous. I at once tested the urine, and found it loaded with albumen. After informing her friends of her critical state, I gave compound jalap powder, and a digitalis mixture, seeing her daily. On the night of June 21st, I was urgently sent for, and found her recovering from a severe fit of eclampsia. I then used cold lotion to the head, dry-cupped the loins, and gave James's powder, the bowels having been well relieved. In the early morning, I was called upon, and was informed that she was in another violent fit. On immediately proceeding to her residence, I found an eight months' still-born child (a girl) in the bed, and the mother unconscious. I removed the placenta, which was in the vagina. Soon after she recovered consciousness, she had another bad seizure. After a time, I left her sleeping comfortably; but on calling soon again, I learned that she had had another fit. While in the room, she had another violent attack; and, although kept partially under chloroform, and ice to the head, the attacks went from bad to worse. At length, I determined to use the hypodermic injection of morphia (a quarter of a grain), and its effect was wonderful; the fits ceased, and she became for the first time collected, and remained so. As a precaution, the injection was repeated in about five hours (at bedtime); and, when I called next day, she was quite cheerful; no return of fits. I attended her until July 27th, giving digitalis and perchloride of iron. The albumen very slowly disappeared, and she left for the country convalescent on July 27th.

Case of Belladonna Poisoning During Parturition—Recovery.

Dr. ALFRED S. GUBB thus writes in the *Med. Press*, August 26th: A woman æt. 32, about to be confined of her third child, was attended by the village midwife, and as the labor was very tedious the midwife, who acted to some extent as the representative of the local medical man, sent a bottle to the surgeon for some ergot. The doctor gave the bottle to his assistant, simply telling him to fill it. The latter not knowing what the bottle had contained, smelled it and recognized the odor of liniment of belladonna, which he therefore dispensed, not, however, omitting to protect it with a poison label. The midwife on receiving the bottle promptly administered a teaspoonful of its contents, followed soon after by a second. In the course of two hours, however, she became alarmed at the "carrying on" of her patient, who rolled about on the floor, throwing her arms about and talking incoherently and indistinctly. There was some sickness, but the patient gradually became comatose and only muttered unintelligibly when spoken to loudly or shaken. The doctor was sent for and when he arrived the patient was quite inert, unable to stand or reply to any questions, though she still mumbled something when moved on to the bed. As sickness had occurred, and as some time had now elapsed since the administration of the poison, the doctor did not deem it desirable to do anything further to counteract its effects, and she was simply placed on the bed and allowed to sleep. On examination, the head was found low down on the perineum, the forceps were then applied, and delivery effected without difficulty, the placenta following in due course, and with no hæmorrhage. The woman gave no signs of pain during these proceedings, and continued to sleep on for several hours. Ultimately she awoke, and was much astonished on being told that the child was born, having no recollection of what had taken place. She said she felt "dazed," and complained of the dryness of the mouth and throat, also of "weakness," especially in the legs. Her speech was difficult and indistinct, probably from the dryness of the mouth. The symptoms gradually passed off, and she made an excellent recovery without any further difficulty.

Kraurosis Vulvæ.

The *London Med. Times*, (July 4th,) quoting from *Centralb. für Gynäk.* tells us that Professor BREISKY, of Prague, describes under this term a little-noticed form of atrophy of the muco-cutaneous covering of the female pudendum. He has observed twelve cases, of which the following were the characteristics:—Apparent deficiency of the nymphæ, the integument from the mons veneris to the meatus urinarius passing smoothly over the clitoris without folds. Sometimes a cicatricial line is seen in the middle line of the vestibule. The glans clitoridis is either quite concealed by the shrunken teguments, or lies underneath a small round depression in them. On separating the labia majora, the mucous membrane below the urethra is stretched, and projects as a transverse fold. An effect of the atrophic process is a "*stenosis vestibularis*," together with which the tissues become unyielding, and readily tear. In consequence, after labor, extensive lacerations are often seen, and even by coitus much fissuring may be produced. At the places of greatest atrophy, the integument is whitish and dry, sometimes covered with a thick, somewhat rough epidermis, while the neighbor-

ing parts are shining and dry and of a pale grayish-red. The sebaceous glands of the pudendal folds generally appear remarkably few. Breisky has made a microscopical examination in one case, and found a cicatrix-like appearance; the connective tissue being sclerosed, nearly homogeneous, the fibres running in a few nearly parallel bands, instead of having the usual undulating appearance. The papillæ were of unequal size, mostly small, the rete malpighii strikingly thin; no sebaceous glands could be seen, and only remnants of sweat glands. As to the ætiology of the disease, the author can only say that in four cases much pruritus preceded it; only three patients suffered from leucorrhœa; syphilis was not demonstrable in any; none had suffered from eczema or any exanthem; nor could difficult labors, parturient injuries or puerperal inflammation be pointed to as ætiological factors. Sugar was not present in the urine of any. The affection has not been hitherto described, and its characters are not those of the condition of the vulva which is known to commonly follow severe pruritus. Neither does it correspond to any form of cutaneous or mucous atrophy hitherto described. Therefore the author has given it the name of "*kraurosis* ('schrumpfung'—shrinking) vulvæ." As to its course and termination, nothing is known. Treatment as yet has proved ineffectual.

Cucaine in Gynæcology.

The *British Med. Jour.* says that the French and Italians allege that they have met with brilliant success in the employment of cucaine for the alleviation of pain in disease of, or operations on, the female pelvic and external organs. Dr. Dujardin-Beaumetz has described a case of vaginismus which followed lingering labor with retained placenta. Dyspareunia lasted for two years, and the vaginismus was not relieved by forcible dilatation of the sphincter vaginæ under chloroform. The inner surface of the nymphæ and the entrance of the vagina were painted four times with a two per cent. solution of hydrochlorate of cucaine. After the fourth application, digital examination or the introduction of the speculum caused no pain or muscular contraction; and a cord-like band, that had previously been felt under the vaginal mucuous membrane, had disappeared. Dr. Rusconi has used cucaine freely in the gynæcological wards of the Ospitale Maggoire, Milan, generally painting a two per cent. solution on the surface of erosions of the cervix before applying nitrate of silver. This greatly alleviated the pain generally caused by caustics. In a case of advanced cancer of the cervix, he applied a plug soaked in three grammes of a solution of 20 centigrammes of hydrochlorate of cucaine in 25 grammes of water. The pain was relieved in a minute, and disappeared in ten, beginning again in an hour and a half. It was found necessary, as might have been expected, to press the plug firmly against the ulcerated surface, in order to produce the full effect. The radiating lancinating pains were much relieved by painting the greater and lesser labia, the vestibule, and the vaginal orifice, with the same solution. These pains, however, soon returned, long before the parts which had been painted had recovered their sensibility. A three per cent. alcoholic solution stopped the pain for about a quarter of an hour, but produced a transitory redness over the vaginal mucuous membrane, and a burning sensation. The other solution had made the mucuous membrane look pale. Dr. Rusconi found that, in some women, cucaine failed to cause

the slightest anæsthesia of the vaginal mucous membrane, although the cornea was rapidly affected in the same subjects. His best results with this new drug followed subcutaneous injection in cases of cancer of the uterus, the pains disappearing in six or seven minutes, and not returning for over two hours. By frequent injections, patients that had entirely lost their appetite began to eat heartily. Simultaneous injection of eucaïne and morphia produced even better results. The combination of eucaïne with atropia was less satisfactory, and seemed to increase the poisonous properties of the latter alkaloid.

Amputation of an Inverted Uterus.

The *Lancet*, Aug. 22, says that Dr. A. GRENANDER publishes in the Swedish medical journal *Hygeia* a case of polypus uteri with inversion, in which the organ was successfully amputated. The woman was fifty-eight years of age, had had six children, and had ceased to menstruate about seven years, when she began to suffer from hemorrhage and after a time from an offensive discharge, for which she consulted the author, who, on examination, found the os patent and a large soft tumor occupying the uterus, which was about the size of a foetal head at term. He advised the woman to go to a hospital, but she did not do so. Seven months later she was obliged repeatedly to send for a midwife to catheterize her. Suddenly, a few weeks afterwards, a tumor protuded from the vulva and bled profusely. The midwife diagnosed a polypus, and endeavored to remove it by traction. This proceeding produced so much pain that the patient begged her to desist and send for Dr. Grenander, who, when he came, found that the tumor, which was the size of two fists, consisted of the inverted uterus and a large polypus attached loosely to it, so that he was able easily to separate them. He then attempted to replace the uterus, but, finding that impossible, ligatured the vagina, which was also partially inverted, and a week later, with the assistance of Dr. Söderström, excised the uterus with a Paquelin's knife at the level of the os internum. Antiseptic dressings were employed. There was but little pain, though no chloroform was administered. Some hemorrhage occurred, and an additional ligature was required. No signs of peritoneal irritation followed, and in eight days the stump had returned to its normal position, being a finger's length from the vaginal orifice. For the first few days the precaution was taken of drawing off the water regularly, in order to prevent the wounded surface or the dressings from contact with it. With the exception of some pain of a neuralgic character, which was rapidly controlled by morphia suppositories, no untoward symptoms occurred, and the patient made an excellent recovery. Examination of the amputated uterus showed that it could not have been replaced without damage to its structure.

Quadruple Pregnancy.

Dr. M. ARTHUR thus writes in the *Chicago Med. Jour.* for August: At six a. m., July 3d, I was called to see Mrs. D. R. Barnett. I found her greatly enlarged, with extreme œdema of the feet and legs. Labor had commenced four hours before. Pains were frequent and regular, the os dilatable, with a vertex presenting, *liquor amnii* had not passed. After rupturing the sac, labor progressed more rapidly, and about eight o'clock a female child was born. The

pains continuing, I examined again and discovered a breech presenting also in the unbroken sac; shortly after rupturing this, a male babe was delivered. Much to my surprise the pains continued, and after caring for the second child I examined again, finding another vertex engaged and also in its own sac. This I could not rupture in the usual manner, with my finger, but had to use a pair of blunt scissors. In fifteen or twenty minutes, a second female babe was safely delivered. I thought surely this was enough; but no, the pains continued constant and strong. Thinking it must be the placenta, I cared for the third babe before examining. When I was ready, I discovered a second breech presentation, this also in its own sac. This sac I had to rupture as the previous one, with the scissors, on account of the toughness of the membrane. In about twenty minutes the second male, or fourth child, was delivered, but apparently dead and bloodless. However, after working over it for about ten minutes, respiration and circulation were well established. I delivered the placenta in fifteen or twenty minutes after the last child; it was in one piece and very large, although the union of four placentæ could be distinctly seen, with their four cords attached.

The babes weighed in the afternoon of the same day twenty-one and a half pounds in all—the girls $5\frac{1}{4}$ pounds each, and the boys $5\frac{1}{4}$ pounds each. The mother and children are all progressing finely at the present writing, the babes being nursed on the mixed plan.

The parents are Scotch, coming to this country three years ago. They have five children previous to the late addition, one of which is Dakota born. The lady is 35 or 36 years of age, medium size, and has been robust.

Puerperal Mania and Metritis Terminating in Abscess; Recovery.

Dr. THOMAS EDWARDS thus writes in the *Lancet*, August 29: On April 16th of this year I delivered L. G—, primipara, aged twenty-eight, unmarried, of twins. She was at the time suffering from a slight attack of bronchitis and mental depression. I applied the forceps to the first child, there being considerable delay in its descent. She progressed favorably until the third day, when she complained of want of sleep. I gave a draught at bedtime containing fifteen grains each of bromide of potash and chloral hydrate. On the sixth day violent mania appeared. No other had symptom being present, I gave thirty grains of compound jalap powder with five grains of calomel, and the above chloral draught every four hours until sleep appeared. The vagina was syringed out with warm carbolio water (1 in 20). On the eighth day the mania was less violent. Lochia and milk arrested; abdomen greatly distended; pain only caused by deep pressure over the uterus; legs drawn up. Temperature 105° ; pulse 120. Strong mercurial ointment and turpentine stupes were applied over the abdomen; frequent and small doses of brandy were given, and a mixture containing fifteen grains of sulpho-carbolate of soda every four hours. On the eleventh day there was present bronchitis, diarrhoea, low muttering delirium, deafness in both ears, and a pinched and deathlike appearance of the face. Temperature 104° and a small quick pulse, but the general abdominal enlargement had disappeared, leaving a large hard swelling rising considerably above the umbilicus. Mustard

poultices were applied to the chest, a plain starch enema given, and the lower part of the body anointed with carbolic oil after each motion. The brandy and the sulpho-carbolate mixture were continued. On the fourteenth day the patient began to improve. The temperature, however, was still high, and the abdominal swelling about the same. On the twenty-first day the improvement had continued, but the high temperature and swelling were still present. She was taking a mixture containing ten drops of tincture of perchloride of iron three times a day.

In the first week of June a large abscess pointed and discharged midway between the umbilicus and pubes. The uterus, being firmly fixed to the abdominal wall, was rapidly diminishing in size, and the patient was regaining her strength.

A Uterine Drainage Tube.

In the *Am. Jour. Obst.* for September, Dr. W. G. WYLIE describes a uterine drainage-tube of hard rubber for use after dilatation of the cervix, or whenever it is desirable to maintain patency of the canal. He says that he uses six sizes of the instrument, there being three variations in the length and three in the diameter. He maintains the following advantages for the tube: 1. Having a bulbous extremity, it could not slip out of the canal. 2. The groove along its side allowed of free drainage. 3. The curve was such that it adapted itself perfectly to the shape of the uterus. 4. There was a knob at the lower end, which could be held with a forceps, and the tube easily withdrawn.

Extemporaneous Examination of the Milk of Wet-nurses.

The *Med. News*, September 12th, says: A ready method of ascertaining the character of human milk has not yet been found, unless an exception be made in favor of that of Dr. PAUL HÉLOT, which we find published in the *Journal d'Accouchements* of August 15.

Hélot's method is based upon the proportion between an equal volume of distilled water and of milk; this proportion is 30 to 35, or more simply 6 to 7, that is, six drops of distilled water are equal to seven of milk. A milk having thirty-seven or even forty gave a good result, but if it fell below thirty-three drops it possessed neither clinically nor physically the requisite qualities.

The milk is taken from the breast by a Pravaz syringe, the needle being removed, and the extremity carefully wiped; the milk should be taken about the middle of nursing, and that from each breast should be examined. The syringe is held vertically, the piston pushed slowly and gently down so that the milk escapes drop by drop, and the drops counted. Then an equal bulk of distilled water may be introduced into the syringe, and the drops counted, or this may be previously known, and a comparison made so as to learn whether the milk has its normal number of drops.

The Nature of the Secretion of the Female Genital Organs.

Dr. MÉNIÈRE, in the *Journal des Connaissances Médicales*, at the conclusion of a memoir concerning the nature of the secretions of the female genital organs, makes the following résumé:

1. The secretions of the human organism are, as a rule, alkaline.

2. Those of woman are less alkaline than those of man.

3. The vulvo-vaginal mucus tends to become more acid as the constitution is weak, or when it is produced as a result of morbid processes.

The uterine mucous secretion under the same condition becomes more alkaline. The state of health, therefore, corresponds with a slight acidity of the vulvo-vaginal secretions (with the exception of the glands of Bartholini), and with a moderate alkalinity of the uterine mucus.

4. The changes of composition are proved by clinical facts, chemical analysis, microscopical examination, and particularly by the cure of sterility from certain thermal causes.

5. To changes of composition correspond hypersecretion, a composition immediately different, and the appearance of micro-organisms; moreover, the uterine mucous membrane constitutes a region in which parasites neither animal nor vegetable can ever be found.

6. Notwithstanding the variations in composition, the mucus secreted by the muciparous follicles and the vaginal mucous membrane always maintains an acid reaction.

7. The mucus secreted by the follicles of the cervical and corporeal cavities, and finally that of the vulvo-vaginal glands, remains invariably alkaline.

Inhalations of Oxygen in Puerperal Eclampsia.

The *London Med. Record* tells us that at a recent meeting of the medical section of the Kharkov Society of Experimental Sciences, Professor V. G. LASHKEVITCH, in the course of a communication on the therapeutic value of oxygen in neuro-pathology, pointed out that oxygen possesses a considerable power of lowering an increased reflex action; and also made the suggestion that oxygen inhalations may prove of service in cases of puerperal eclampsia. Acting on the suggestion of Professor Lashkevitch, Dr. V. G. Favr, of Kharkov (*Vratch*, No. 13, 1885, p. 197), resorted to oxygen in two cases, and obtained brilliant results. The first of the cases was that of a seamstress, primipara, aged 19, who was brought to the hospital in an unconscious state, with cyanosis, stertorous breathing, and frequent eclamptic seizures, each of the latter being preceded by an uterine contraction. Warm baths, wet packings, and enemata with chloral-hydrate, brought no relief; chloroform inhalations only slightly controlled the intensity of the convulsive paroxysms. In view of the failure of all these means, oxygen was tried. In five minutes from the beginning of the inhalations, the patient asked for water, and then fell into a quiet sleep of two hours' duration, the pulse descending from 120 to 90 per minute; uterine contractions ceased to be a starting-point for convulsive fits. The latter reappeared each time when the inhalations had been stopped, and again gave place to sleep and quiet on resuming the administration of oxygen. The delivery was accomplished with the help of Barnes' dilators, and of puncture of the membranes. The patient left the hospital on the nineteenth day after the labor, her general health and the state of the kidneys being greatly improved under an appropriate treatment. A second patient, primipara, aged 18, was attacked with eclampsia about one and a half hour after the labor. Two severe paroxysms (each of twelve minutes' duration, separated by a free interval of twenty minutes, during which the patient remained

unconscious) had occurred before oxygen inhalations could be resorted to. Consciousness returned immediately. Four more paroxysms occurred, but they were considerably milder, and separated by the intervals of absolute comfort; indeed, the patient took her tea and dinner between the eclamptic fits. She made a rapid recovery. Encouraged by his success, Dr. Favr enthusiastically invites all professional brethren to give a trial to so simple a weapon against so formidable a foe, and even goes so far as to ardently hope that in a near future oxygen-gasometers will be found in all lying-in hospitals, side by side with forceps, cranioclast, cephalotribe, and other necessary instruments.

Perforation of the Cervix Uteri by a Laminaria Tent.

To the New York Obstetrical Society Dr. C. C. LEE related a case which suggested the advisability of caution in using laminaria tents for dilating the cervix uteri. The patient, a middle-aged single woman, entered his service at the Woman's Hospital with what was believed to be a submucous fibroid attached to the anterior wall of the uterus a short distance above the internal os. The vagina was narrow and the cervix long, making it difficult to outline the growth with the finger, and, as frequent hemorrhages pointed to the necessity of adopting some efficient mode of treatment, it was decided to dilate the cervical canal. Laminaria tents were introduced, carefully watched, and changed sufficiently often. They were held in position by carefully adjusted vaginal tampons, which were never very tightly packed. The uterus was slightly anteverted. On the removal of the tents on the last occasion—they had not been put in by himself, but by a careful and experienced house surgeon—he was astonished to find a large perforation on the anterior surface of the cervix at the internal os. It was evident that these tents, of which two were then in the canal, had, by their expansion and by the pressure of the tampon, perforated the anterior side of the cervix at the vaginal junction. This was the first time he had known the accident to occur, but, on inquiry among his friends, he had learned of two other similar cases, the tents used being of laminaria. In his case, instead of making the usual incision, he divided the cervix posteriorly up to the internal os, and anteriorly up to the perforation, and was then able to reach the greater portion of the tumor. Carbolyzed cotton was applied to the cervix, and the patient, notwithstanding her reduced condition, recovered. The result of the granulating surfaces was such as to call for trachelorrhaphy, after which the cervix was left in a pretty fair condition.

Infantile Menstruation.

Dr. E. NEWTON CAMPBELL thus writes in the *Peoria Med. Mo.* for June: Was called to attend Mrs. A., aged 26, in her third confinement, April 15, 1885. She had passed through an ordinary period of gestation, and after an ordinary labor was delivered of a well-matured female child weighing eight pounds. When the infant had undergone the usual ordeal of washing and dressing, I observed it to have rather a peculiar manner of breathing, being that of a superficial and sighing character. Upon examination I was unable to discover any organic malformation of either heart or lungs. The child was warm, of a good color, and the circulation free. But I found the heart action markedly slow, beating about forty-five times in the minute, yet strong and regular. After about twenty-four

hours colic took possession of the little innocent, and from that time on until it was five days old, it seemed to suffer more or less pain in and about the bowels, the character of which did not simulate the pain and distress of a pure and unvarnished colic.

On the third day it had a mild convulsion, and during the fourth day another convulsion of a severe type, which came near snuffing the last spark of life that was dimly manifest. It was with difficulty that the child was resuscitated from this second attack, but by careful and constant work, such as cold to the head, and hot water to the feet, friction of soft flannel, the little one pulled through. By this time it had become very weak and prostrated, with a disposition to faint away into a stupor. Proportionate doses of dilute whisky were administered and the child placed to the breast at regular intervals. On the fifth day it began to menstruate, the blood flow continuing for five days, and presenting all the characteristics peculiar to a menstrual discharge. As soon as the flow began the child became more tranquil, and appeared to grow gradually more free from pain and distress. The breathing soon became more natural, and from this time on the pulse rate increased in frequency until it was four weeks old, by which time the heart action had attained the normal standard for an infant of that age. At this time of writing (June 8, 1885), there has been no return of the menstrual flux. It nurses its mother, is growing nicely and doing well, presenting no precocious appearances, and has the promise of an auspicious future.

Successful Operation in Tubal Pregnancy.

The *Lancet*, August 15th, says; Dr. F. WESTERMARK describes in a Swedish medical journal a case of tubal pregnancy upon which he operated successfully. The age of the patient was twenty-three. She began to menstruate at twelve, and always suffered a good deal at the periods. Sometimes she ceased for several months at a time, and for this amenorrhœa she attended the Serafimerlasarettets Polyclinic in 1882. A cure was effected and she became quite regular. In September, 1883, she was married; she menstruated regularly till December, 1884, when she ceased. In February, 1885, the breasts began to swell and she believed herself to be pregnant. On the 11th of March there was slight hæmorrhage, which recurred three times in a week. On the 19th she had some pain and hæmorrhage; thinking she was about to abort, she sent for a midwife. On the 25th Dr. Westermarck saw her and found the cervix closed, the uterus enlarged and retroverted; to the left was an elastic tumor about the size of a small fist. The patient being unable to micturate, a catheter was passed and the uterus replaced. She continued in a satisfactory condition for three days, when she was seized with diarrhœa, vomiting and pain. The next day she was nearly collapsed; she was again catheterized and the uterus replaced. Shortly afterwards a complete cast of the uterus came away. Her condition appearing serious, and being in poor circumstances, she was admitted into the Maria Hospital on April 8th. It was noticed that there was no tenderness on palpation. Above Poupart's ligament a tumor about three or four centimetres in diameter was felt. The uterus was enlarged, movable, anteflexed, and displaced to the right, the os being closed. The tumor could be felt to be distinct from the uterus, and was about the size of a goose's egg; it was soft, elastic, smooth, and did not fluctuate. A placental

souffle was heard over the tumor. On the opposite side no corresponding sound could be detected. The lungs were healthy; there was an anæmic cardiac murmur; the urine contained some albumen, but no casts; the temperature was normal, and the pulse from 80 to 90. The next day there was some hæmorrhage, and on the 15th a recurrence of pain. On April 19th the abdomen was opened under antiseptic precautions. In the peritoneal cavity a quantity of bloody serum and some firm clots were found; the cavity was carefully sponged out. The viscera and serous membrane appeared much injected. The right ovary and Fallopian tube were healthy; the uterus enlarged and soft. To the left lay a tumor the size of a goose's egg, in appearance very like an incarcerated hernia; immediately below, and to the outer side, lay the left ovary. The tumor was soft and very elastic; there were adhesions externally. When pricked with a needle some bloody serum exuded. It was then ligatured and removed, and the abdomen sponged out with boracic solution and closed with deep and superficial sutures, the wound being dressed with corrosive sublimate gauze. The patient did well. The tumor was egg-shaped, having at one end the cut Fallopian tube, and at the other the fimbriated extremity. No trace of umbilical cord or embryo was discovered in the cavity of the tumor or in that of the abdomen, but traces of chorion and placental tissue were found in the tumor.

Cæsarian Section in Central Africa.

The *Med. Press* says: In a recent article on the postures adopted by women in Central Africa, in the *Deutsche Med. Zeitung*, Dr. BREITMANN gives a most interesting account of the operation of Cæsarian section, as witnessed by Dr. R. W. Felkin at Kaeura. The case was that of a very handsome young negro woman, a healthy primipara, aged 20 years. He entered the hut just at the commencement of the operation, but was not permitted to convince himself of the condition of affairs by examination. By the side of the half-intoxicated patient stood a quantity of banana wine. A bandage of mbugu, a stiff material made from the bark of a tree, went over the breast and bound the patient firmly to the bed, another passed over the thighs; an assistant held fast the feet, and another, standing on the right side, held the skin of the abdomen on the stretch. The operator, holding aloft a knife, muttered a prayer. After the completion of the operation of the ceremony, he thoroughly washed the abdomen of the woman and his own hands with banana wine, uttered a piercing cry, which was repeated by those standing without, and made an incision from the pubes almost to the umbilicus, and right into the uterus, so that the liquor amnii gushed out. Some bleeding vessels were successfully touched with the actual cautery. The operator quickly extracted the child, whilst a second assistant drew the edges of the uterine wound apart and compressed them. After division of the umbilical cord, the child was handed to the woman, the operator laid aside the knife, grasped the uterus and compressed it with both hands with all his might. He then dilated the cervix with two or three fingers, removed the placenta, while the assistants were busied in arranging the intestines, and especially in preventing any portion getting between the edges of the wound. What bleeding still continued was stopped by the actual cautery, whilst the operator still compressed the uterus until it was firmly contracted. No sutures were inserted. The assistant who had

before held the abdominal wall on the stretch grasped the angle of the wound, and the whole wound was covered with an herb pad. The bandages were now loosed, the assistant grasped the patient by the arms and turned her over into a position in which the fluid in the abdominal cavity flowed out. She was then brought back into the former position, the herb covering was removed, the edges of the wound were carefully adjusted and fixed with well-polished needles, similar to acupuncture needles, and made fast by an encircling thread. A paste prepared from two different roots by chewing was laid over the wound in place of plaster, over this a previously warmed banana leaf, and the whole fastened on with mbugu bandage. Up to the moment when the needles were inserted the patient had evinced no expression of pain, and an hour after the operation was in good spirits. The temperature did not rise above 37.5° except during the first night, when it reached 39° . Pulse 108.

Two hours after the operation the child was put to the breast, but after about ten days, as the milk stopped, it was fed by another woman of the tribe. The first change of dressing was made on the third day, a needle was removed, then more followed on the fifth, and the remainder on the sixth. At every change of dressing fresh "ointment" was put on, and the secretion from the wound removed with a tampon charged with it. The dressing was solid, and in nine days after the operation the wound was healed and the patient quite well. Beyond the interest which naturally attaches to a case of this nature, it is heightened in the present instance by the quaint native proceedings, and the decidedly civilized method employed by the chief operator.

Malaria and Pregnancy.

A foreign exchange tells us that Dr. G. C. NIJHOFF, of Amsterdam, discusses in the *Weekblad* the question of the relation of malaria to pregnancy, adducing some observations of his own. Some years ago, it seemed to be the general opinion that pregnant women were very rarely affected by malarial fevers. Thus, Griesinger (*Virchow's Handb. der spec. Path. und Ther. Infectious-Krankh.*, 1856) found that, during the prevalence of a quartan fever in Prague, only 2 out of 8,639 pregnant and parturient women were effected. Again Credé states (*Monatsch. für Geburtsh.*, Band xv, S. 1, 1860) that, in Leipsic, during the three years 1856-1859, there was scarcely a case of tertian ague in a pregnant woman. Mendel and Ritter have also recorded the comparative immunity of pregnancy from malarial attacks, for which the latter accounts by the smaller degree of exposure to malarial influences during pregnancy. When, however, it does occur, it does not, according to both Mendel and Ritter's observations, exercise any remarkable effect on the course of the pregnancy. On the other hand, Göth, of Klausenburg, found (*Zeitsch. für Geb. und Gyn.*, Band vi, S. 17, 1881) that, during a severe epidemic of a malarial nature, 46 out of 881 pregnant women were attacked; and of these 46, in 19 the labor was premature, and in some the children were still-born, and, even when they were alive, the size and weight were abnormally low. Bompani also (*Centralbl. für Gyn.*, 1884, S. 821) is of opinion that malaria causes more premature labors than syphilis.

The discordant views of authorities, of which the above may be taken as examples, extend also to the treatment which should be adopted in the malaria of

pregnancy, some, as Cazeaux, advising that quinine should be given as the surest preventive against abortion; while Pettijean (Charpentier, *Traité des Acc.*, Tome i, p. 562, 1883) and Monteverdi consider that quinine is a powerful ecboic; the latter thinks it even more active than ergot.

The writer mentions particulars of four cases, in which malaria attacked pregnant women, quinine being given. In one of these the labor came on five weeks before the calculated time; but the child was of full length, and it was uncertain whether it was really premature. In another case the labor occurred at about the right time, but immediately after a severe attack of fever; the weight of the child being 2.8 kilogrammes (about 6 lbs. 2½ ozs.). The other two pregnancies terminated normally, with healthy children.

With respect to the mutual effect of malaria and the process of labor, Ritter was of opinion that labor tends to arrest a malarial attack, suggesting, as an explanation of this, that the hemorrhage may perhaps account for it. Góth considered that labor is prolonged by malaria to double its normal length, and stated that artificial assistance by forceps or extraction of the placenta was requisite more often than in cases uncomplicated in this way. The writer's own observations induce him to agree with Ritter rather than with Góth. In one of his four cases, the malarial attack did not return for twelve days after the labor; and in two more cases the patients were free for fourteen days after labor. In all these cases the labors were normal, with very little hemorrhage.

It is, of course, often difficult to diagnose malaria in the puerperal state. Ritter believed that puerperal women are peculiarly susceptible to malaria, but that they are less exposed to its influence than other people. He, however, mentioned fourteen cases, of which only three had had attacks during the pregnancy. He also thought quinine less satisfactory in its results than usual, owing to the enfeebled digestive power. The author's experience of puerperal malaria is very limited.

The Treatment of Myoma of the Uterus.

The *Brit. Med. Jour.*, August 15th, says that Mr. LAWSON TAIT's paper, read in the Obstetrical Section at the annual meeting of the *Brit. Med. Ass.*, will certainly turn the attention of the profession once more to the great question of prognosis in cases of uterine myoma. On this question, everything relating to treatment necessarily depends. Unfortunately, the opinion of experts is divided on this subject. Many go so far as to say that myoma never kills by its size alone, and that the hemorrhage which it occasions may always be checked by various appliances without the extreme measure of hysterectomy. Others believe that a small myoma should always be removed, as the chance of its growing very large is considerable, and a large myoma is, they declare, a source of great danger to the patient. It follows that a very close investigation of the history of uterine myoma is yet needed, and a very long series of cases will be necessary for the purpose. The disabling character of myoma must in all cases be taken into account. It acts very differently in patients in different grades of society. Many such patients among the working classes are bread-winners for themselves and others, and the partial or complete rest necessary for the expectant treatment of myoma means ruin, or at least the deterioration of habits of industry. In a patient of a higher class, who can command carriage-exercise, and can solace

herself by intellectual pastimes, myoma is, without any exaggeration, robbed of half its terrors—of all, the advocates of palliative treatment would say, but the operators declare that the element of danger remains.

Few will deny this element of danger, hence few can deny that operation is sometimes needed. Here three more difficulties come in view: should the operation be enucleation, or hysterectomy, or oöphorectomy? The risk of the first, its difficulty, and its very nature, condemn it as unsurgical in the opinion of most authorities. Hysterectomy is, indeed, a great problem. When successful, recovery is certainly very complete. It cannot be said, however, that the most experienced operators speak with enthusiasm about it, and, without mentioning names, we know that many of the cases where these surgeons met with success would have encountered a different fate in the hands of less experienced followers. The mortality remains high, and the operation difficult, yet experience may show that there may be improvements in operative detail; and, in fact, that more may be said in its favor, and nothing more discovered that can discredit it.

Oöphorectomy is the third resource, and this is favored by Mr. Tait and several other surgeons. His paper supplies arguments in its favor, which it is not, therefore, necessary for us to recapitulate. There only remain, then, certain objections to be considered.

First, the operation is very difficult. Even those who have performed numerous abdominal sections admit that their first oöphorectomy was a much harder task than they expected. It is hard to say which is the most troublesome, to get at a small diseased ovary adherent to pelvic structures, or to secure the pedicle of an ovary attached to a large myoma. The latter only is the condition pertinent to the present question. Practice shows that securing the pedicle of the ovary in this case, so as to insure against all risk of hæmorrhage, is never easy, and often impossible, so that a contemplated oöphorectomy has had to be converted into a hysterectomy. Then it is sometimes very difficult to remove all the ovarian tissue on both sides; and, unless this be done, the operation is almost certain to fail in its object. Then, after oöphorectomy, the patient has often to wait a long time till the tumor has subsided, nor does this subsidence invariably take place.

The arguments in favor of this operation are, however, very cogent, nor can we deny that Mr. Tait's paper, on that account, merits the attention of the profession. It has been said that, roughly speaking, ovariectomy is a settled question. It will probably be long before the same can be said in regard to any operative treatment for uterine myoma.

An Interesting Case Illustrating Emmet's New Operation for Restoration of Pelvic Diaphragm.

Dr. J. M. BALDY thus writes in the *Med. News*, July 25th: Mrs. G., a young German woman, twenty years of age, first child, protracted labor, attended by midwife, child died twenty-four hours after delivery. On examination I found the perineum torn to the sphincter, with complete loss of muscular and fascial support in the pelvic diaphragm. There was a large mass of scar tissue over the sphincter, but the recto-vaginal septum above this point was thin, being composed merely of the two mucous membranes. There was a small rectocele with

deep lateral sulci, the right being the deepest and longest. The cervix was split bilaterally, flush with the vaginal walls, the lips were everted and eroded, the fundus was retroverted, and the whole uterus low down. Pelvic pains and general reflex disturbances were very marked, incapacitating her for marital relations and domestic duties—so much so that she, on several occasions, left her husband, and repeatedly expressed the desire to die.

Her general and local condition improved under treatment, but not to any marked extent. The local irritation and chronic engorgement called loudly for operative interference, to which she gladly submitted.

Both cervix and perineum were closed at the same sitting. The surfaces of the cervical tear were freshened with Dawson's tenaculum-pointed scissors by four clean cuts extending far back into the angles of the laceration, thereby removing a large mass of cicatricial tissue from each angle. The tear was then closed with shotted silk wormgut sutures, securing perfect apposition of the freshened surfaces.

I then closed the perineum according to Emmet's new inside operation for loss of muscular and fascial support of the pelvic diaphragm. The steps of the operation are simple. They consist in passing a ligature through the crest of the rectocele, and a tenaculum into the labial tissue on each side directly opposite the lower caruncle. Bringing these three points together will form the triangles to be freshened, as is so fully described by Emmet in the third edition of his work. The triangles were then freshened with curved scissors by means of transverse strips or the "carpet rag" method of denudation. The scar tissue was removed completely to the rectal mucous membrane.

The operation differs from the old one principally in the introduction of the sutures, the denudation differing only in freshening the sulci far up to their apices, and not in freshening labial surface which has not been torn. The stitches were introduced from the apex of each sulcus, forward. A tenaculum was hooked in the apex of one sulcus, drawing the apex backward towards the cervix, and thus preserving the line on which the sutures were to be introduced, intact. The first two sutures were passed transversely and were followed by others introduced *forward*, including plenty of tissue, towards the operator, to the bottom of the sulcus, where they were reintroduced and carried *backward*, emerging just beyond the freshened edge of the rectocele directly opposite the original point of introduction on the other side of the sulcus, and thus forming a V-shaped course. Six sutures were thus introduced in each sulcus. When these were drawn up into place and closed, there remained only a small triangular space of freshened surface in front of the rectocele, which was closed by Emmet's crown and two superficial external stitches.

The crown stitch consists of passing a suture into labial tissue between points of original introduction of tenacula, including the crest of the rectocele. All sutures introduced were of shotted wormgut of the finest quality. In adopting this method of closure, perfect restoration of the perineum and the posterior vaginal wall, which is the natural support of the anterior wall and bladder, was secured.

The amount of discomfort afterward was slight. The knees were not bound together as in the old operation, no opiate was needed, there was no swelling or

oozing and very little pain. The bowels were kept soluble and the patient passed her own urine after the first day. Vaginal injections of warm water and astringents were used, and a small piece of carbolized gauze, spread with cosmoline, was introduced into the vagina daily. Union was perfect throughout. The external stitches were removed on the eighth day, and the woman was up and around enjoying good health by the fourteenth day.

Veratrum Viride in Puerperal Convulsions.

Dr. W. A. ELLISON thus writes in the *Medical Herald* for July: I was called on the night of the 17th of May, 1885, to go into the country to see Peggy —, a blind and half idiot mulatto girl thirteen years of age. The messenger seemed much excited, and requested me to be in a hurry, as the girl was having convulsions, and he thought she was going to be confined.

On arrival I found that the patient had been in labor nearly twenty-four hours, and that she had been having convulsions about every half hour for the last ten hours. On inquiry I learned that she had had several convulsions two weeks previously, and had one three days before I was called to see her.

On making a digital examination I found the os considerably dilated, L. O. R. position—the membranes, containing a small amount of water, protruding. The contractions were becoming quite frequent, and were of considerable force. The patient could not be controlled, but kept throwing herself from one side to the other; in fact it required four persons to hold her anything like still.

I gave her forty grains potassium bromide, which seemed to have a good effect, as she became more quiet and the convulsions did not return for more than an hour. On making an examination at this time I found that the membranes had ruptured, but the head was still at the superior strait. The pains were now very hard, and she was taken with a severe convulsion which lasted some time, and was followed in a few moments by another one. I now commenced to use chloroform, but had only used a small quantity when my bottle was broken and the contents lost.

I therefore determined to use my "old stand by," veratrum viride, to control the spasms and to deliver as quickly as possible. I gave the patient at once forty drops Norwood's tincture veratrum viride. I also tried to apply the Ireland forceps, but the head was so high up that I could not apply them. The convulsions now were less severe, and the patient became semi-comatose between the paroxysms. After waiting half an hour I gave her another half drachm of veratrum, and as I could not apply the forceps, I concluded to turn and deliver by the feet. I succeeded in introducing my hand into the uterus without any trouble, and soon found the left foot, but could not get hold of the right, as my hand was becoming cramped from the severe contractions of the womb; I therefore brought the one foot down. About this time, which was half an hour after giving the second and last dose of veratrum, the convulsions ceased and did not return any more.

I had considerable difficulty in delivering the child after I had brought the foot down, but finally, by pulling on the foot and by external manipulation, I succeeded in getting the child to turn, after which delivery was soon accomplished.

The child had been dead a day or two. The woman became conscious about one hour after the child was delivered. She vomited, then called for water, and was soon sleeping nicely; twenty-four hours later she had high fever, with suppression of the lochia. I gave her a brisk cathartic, vaginal wash, and warm applications to the abdomen, which soon relieved her. She is now rapidly convalescing.

I suppose some will say the dose of veratrum was too large, but I believe in heroic measures in such cases. I have used veratrum in several similar cases—even in larger doses—and always with marked success. I have never seen any toxic effects produced by it, and never much vomiting. True, I have seen extreme nausea following the long-continued use of small doses; but if vomiting occurs after the use of large doses I have always found it free and easy and without much nausea. I would be glad to hear from some other physician on the same subject.

Shortening the Round Ligaments.

Before the British Gynecological Society (June 10, 1885), Dr. ALEXANDER (Liverpool) read a paper on the operation of correcting some uterine displacements by shortening the round ligaments. He said the operation had now been performed in nearly all the prominent cities in the world, and by most operators with more uniform success than generally befel any new operation. He never found any difficulty in finding and drawing out the ligaments. An incision was to be made upwards and outwards from the pubic spine, in the direction of the inguinal canal, for one and a half to two or three inches, according to the fatness of the subject. A considerable thickness of subcutaneous fat was then met with, which must be cut through by subsequent incisions, until the pearly, glistening tendon of the external oblique muscle was reached. Midway through the fatty tissue an aponeurosis sometimes appeared, so firm and smooth that it might cause the operator to think he was deep enough, but he would find no ligaments at this spot. The first stage of the operation consisted simply in cutting down upon the tendon of the external oblique muscle, until it appeared clean and shining at the bottom of the wound. The external ring was then found. The finger passed to the bottom of the wound detected the spine and the ring outside. Having isolated the external wound, and tied any little vessels, the next step was to find the end of the ligament. By everting all the structures upwards, the round ligament could be seen, generally at the lowest part, and with the white, easily-distinguished genital branch of the genito-crural nerve along its anterior surface, and close to it. The ligament at this stage was more or less rounded in shape. It was an easily-recognized, flesh-colored structure. When the ligament was identified, the small nerve on its surface was to be cut through without dividing any of the ligament. Then gentle traction was to be made, either by the fingers or by broad, blunt-pointed forceps. Bands holding it to neighboring structures were cut through with scissors. As soon as it began to peel out it was left, and the opposite side begun. The final stage of the operation consisted in placing the uterus in position by the sound, and pulling out the ligaments until they were felt to control that position. A curved, threaded needle, with fine catgut, was used to stitch each ligament to both pillars of the ring, and the external ab-

dominal ring was closed without strangulating the ligament as it lay between it. The ends of the ligaments were now cut off, and the remainder stitched into the wound by means of the sutures that close the incision. A fine drainage-tube was inserted, and the wound washed out with carbolic or other lotion before these sutures were tied. The after-treatment consisted in rest. The tubes were removed on the second day, when the wound was dressed. The mortality of the operation might be set down as none. Three deaths had occurred, but they were due to preventable causes. As mortality did not seriously enter into any consideration of the results of this operation, the real question at issue was whether it fulfilled the intentions of the operator, and satisfied the expectation of the patient. The operation was designed to correct certain uterine displacements, and these alone. Whether the discomfort of the patient would be thereby relieved, entirely depended on whether or not the symptoms were due to the displacement. To secure success, the operation must be properly performed, and the after-treatment must be rational, so that no strain might be placed on the ligaments until sound union had taken place.

Dr. Meadows wished to know for what purpose Dr. Alexander resorted to the use of the galvanic stem-pessary in the after-treatment of these cases. In his experience, the galvanic stems were so unsatisfactory that he had abandoned their use. Could not an ordinary stem be used?

Dr. Protheroe Smith referred to a case in which Dr. Alexander had operated on a patient of his for acute retroflexion.

Mr. Reeves said the difficulty of the operation depended, to a great extent, upon the thickness of the abdominal walls. In thin subjects, the operation was easy.

Dr. Heywood Smith had performed the operation with satisfactory results, and considered it a valuable addition to our therapeutic resources.

Mr. Lawson Tait had done only one of Dr. Alexander's operations. The woman was nine weeks recovering. The uterus was perfectly restored to its position. The wound suppurated, and the patient nearly died. He did not, therefore, feel very enthusiastic about the operation.

Dr. Alexander said he used the galvanic stem merely for mechanical purposes; any stem would do. Shortening of the round ligaments did not seem to interfere in any way with pregnancy. He had operated in one case where the patient became pregnant, and had a child without any trouble.

A New Oxytocic.

Dr. W. B. ARBERY thus writes in the *Med. Record*, July 25th: Without any lengthy exordium, I will commence my subject by saying that I have discovered an oxytocic which to me is a new and original idea—not having read or heard lectures about it even. It consists simply of heat applied externally. I will briefly narrate a few cases to describe its potency.

I was called to a case of labor, a multipara, five miles in the country, just as daylight had faded. I found the patient walking around in the room, having irregular, short, teasing pains. I had her lie down, and I made the usual digital examination, finding the os quite patulous, with a vertex presentation, and a dilatation about the size of a silver half dollar. I folded my arms and waited for

several hours, the patient continuing to have the same teasing, irregular pains. I again made an examination to find the smallest possible progress, but there was almost a complete inertia. Getting impatient, and having delivered her twice before, I knew the adaptability of the parts for the required task; and, being satisfied there was no *vis a fronte* to antagonize a dose of ergot, I gave it, using a reliable tincture. After a proper interval I repeated the dose, and kept repeating until I had given one ounce, when finding the uterus did not respond, I had the patient walk around the room. Then I kneaded the womb well, and, still getting no result, I gave ten grains of quinine, with a better result from that than anything I had done or given; it roused the uterus to a pretty energetic action for about thirty minutes, then ceased. I then gave a stimulating toddy, but all to no purpose, and, daylight having arrived, I hastened home.

In a few hours a messenger came for me in haste to see my patient again. I returned hurriedly only to find the patient plodding along at the same old pace, without progressing one jot. Having increased my supply of ergot, I gave another ounce at two doses, but to no purpose. Finally, I resolved to go again, but before going I thought of hot mush poultices, and decided to try them awhile to fill up time. I had them prepared nice and stiff, and had them applied over the fundus of the womb as hot as they could be borne, replacing them as soon as one became a little cool. To my great satisfaction, before the third poultice had been applied the pains began to come in full force and regularly, and in two hours after the pains started up, the labor had ended with a fine ten-pound boy. I kept the poultices up until the expulsion of the child.

Second case—a primipara with convulsions; had four before I saw her. Three miles from town; found labor just started with a vertex presentation. I gave chloral abundantly, bled her tolerably freely, gave twenty drops of veratrum at intervals, used chloroform inhalations, and still the convulsions would come, with the labor progressing only at the minimum rate. It was impossible to use the forceps, and everything being so rigid, close, and compact, I could not introduce my hand to turn, so I resolved to hurry nature with my hot poultices, and with my chloroform I stood at the patient's head and had the poultices applied fast and hot. In less than three hours after commencing the poultices, labor was over, with a long-headed, living, fine boy, and no laceration to the mother. She continued to have convulsions for ten hours afterward; then they ceased and she made a rapid recovery.

Third case—a multipara. I was called out before daylight, found labor barely commenced, but the patient reported as having been worried all night with short, teasing, irregular pains. I waited a few hours, with no progress and the same character of pains. About four hours after my arrival the patient inquired what was the matter with her eyes: said she could not see me nor any one else in the room. I told her I would remedy that, and gave her a large dose of chloral hydrate. In less than five minutes after taking it she had a light convulsion. I waited half an hour for the effects of the chloral, and then commenced with hot poultices. In four hours I started for home, leaving the mother and child doing well.

Fourth case—a primipara with convulsions. I was called to see her with another physician, and requested to bring my forceps and plenty of chloroform. I

found a case of puerperal convulsions, having been in labor some five hours, convulsions having commenced in the latter two. The physician had bled her profusely, but it did not have the desired effect of checking the convulsions. The labor had progressed smartly, but after the convulsions set in there was almost a complete inertia—entirely so, so far as the progress was concerned, although she would have short, irregular pains. I advised my hot poultices for awhile, rather than any instrumental interference, which advice was acquiesced in, and the poultices were applied. They were given without any obvious effect for some time, and I had began to get a little dubious about my hot poultices, “at all times and under all circumstances,” until I discovered that they were placed near the pubes instead of over the fundus of the womb, and also that they were not hot enough. After correcting the error by putting the poultice higher and having them hotter, good, steady pains commenced, and the labor was ended in less than two hours with a still-born babe.

As the cases are somewhat scarce for assistance as detailed above, and my obstetrical practice not being extensive, and being anxious to test the certain utility of my “new idea,” I write this to ask the profession to give it a trial and report, since, if it is what I think it is, it is certainly pre-eminently above all the oxytocics for safety and simplicity, as the case can be hastened or slowed at option by simply putting on or withholding the hot applications. I do not mean warm, but hot as can be borne.

Vicarious Menstruation.

In the *Mississippi Valley Med. Mo.* for September, Dr. LIPSCOMB reports an interesting case of vicarious menstruation in a pregnant female which had come under his observation. The patient was a negro girl whose parents were above the ordinary negroes in respectability and circumstances. At each menstrual period, for three months prior to his visit, she had had slight hemorrhages from her lungs; this, however, had never been considered enough to alarm her parents until this, the fourth occurrence. Upon his arrival and learning the history and characteristics of the case, he suspected pregnancy and a vicarious function. He made an examination and satisfied himself that pregnancy existed; this the girl denied, and the parents became indignant when he gave them his opinion, declaring that such a thing was improbable, and sent her in to the city and placed her for a while under the care of an “Indian doctor,” who, to his credit, did nothing to disturb the fetus. About this time the doctor moved from the neighborhood into the city, and lost sight of her, but he received a letter from the physician who attended her in labor, who said the hemorrhages recurred each succeeding month until labor, after which normal menstruation was resumed, and she suffered no more with the lung trouble.

VII. SURGERY.

Naphthalin for Ulcers.

In the *Vratch*, No. 25, 1885, p. 406, Dr. DOVODTCHIKOFF highly eulogizes naphthalin as a dressing material for ulcers. Its main advantages are these: 1. It is cheap. 2. Its application is simple and easily practicable, even for patients from the poor (working) classes. 3. It induces rapid growth of healthy granulations, and rapid cicatrization. 4. It rapidly removes the bad odor and unhealthy appearance of granulations. 5. While diminishing irritability and painfulness of the ulcer, it allows the patient to continue his occupation without any harm as regards the healing process; a circumstance which is of enormous importance for patients of the working classes. The author powders the ulcer with naphthalin twice daily, removing the powder, on each occasion, with a stream of water from a tea-pot; the powdered ulcer is covered with a piece of thin oil-cloth, and then a roll-bandage is firmly applied. It is absolutely necessary to use a pure, dry, well-pulverized naphthalin, free from any foreign odor.

Seltzer Water for Intussusception.

Reporting two successful cases where he injected seltzer water in the *New Orleans Med. and Surg. Jour.* for September, Dr. E. D. BEACH says:

"In theorizing with regard to the action of the seltzer water, the question arises, was it the great force of water, or was it the gas evolved from the seltzer water, that produced the effect? I think it is the combination of the two forces. When giving the injection to the infant, I tried to compress the rubber bulb of the syringe, with my hand, to satisfy myself of the force involved. I was unable to do so. Then with this great force constantly and steadily exerted, the patient in the meantime being made to retain the injection, gas is evolved from the seltzer water, and this makes a constantly increasing pressure. In both cases vomiting occurred, I think, just at the time the stricture gave way. I utilized a Davidson syringe, which first came to my hand; a rubber pipe would, of course, answer the purpose.

Scrotal Calculus.

Dr. J. SCHKOTT reports in the *Wiener Med. Blätter*, No. 24, a case of scrotal calculus in a laborer aged 27, who, after having, when a child, suffered from some injury or disease of that part, observed what was thought to be a third testicle, much harder than on either side. Seven years before coming under Dr. Schkott's care, he had noticed the occasional presence of blood in the urine, and during the last two years pain in micturition and in coitus. The middle 'testicle' was now the size of a goose's egg. Three months before he received a blow in the private parts; this was followed by inflammation and the formation of an abscess, which

burst, and when seen by Dr. Schkott had not healed. Exploring the fistula with a sound, Schkott detected three concretions movable one on the other, and in passing a catheter, an urethral fistula in the membranous portion. At the operation a fibrous sac was discovered, containing seven uric acid calculi. This was extirpated, and the fistula and wound closed with catgut. The fistula reopened once, but a complete cure was ultimately effected.

An Operation to Cure Extensive Loss of Skin in the Arm.

Dr. JOSEPH BELL thus writes in the *Edinburgh Med. Jour.* for September: In November, 1883, N. L., during a very severe attack of phlegmonous erysipelas, lost the greater part of the skin of the inside of his right arm, from the posterior fold of the axilla down to within three inches of the wrist-joint. He came under my care with the view of having an amputation performed at or near the shoulder-joint. After months of treatment, however, by skin-grafting, rest, etc., cicatrization had progressed, till only a wound about $3\frac{1}{2}$ inches long by 1 broad remained on inside of elbow-joint. This refused to heal any further, a dense cicatrix ringed in the arm for about three inches of its length, and the tissues around were constantly reopening. He again was admitted in June, 1885, requesting amputation. I thought it a pity to sacrifice a good hand, so determined to shorten the limb. This I did by cutting down upon the humerus three inches above the elbow-joint behind, and removing subperiosteally the whole lower three inches, including the condyle and cartilage, and also the olecranon. He has now a useful arm, with full flexion, extension, pronation, and supination, shortened barely two inches, and healed.

Dislocation of the Metacarpal Bone of the Thumb.

Dr. G. WALTER STUVEs thus writes in the *Brit. Med. Jour.*, August 15: Some months ago I was consulted by a young gentleman, aged 22 years, who was suffering from the effects of a severe fall from his bicycle. He had been riding at great speed, when he was suddenly thrown over the handles of the machine, falling on his right hand and side. On examination, in addition to severe contusions of the shoulder and arm, I found that the carpal end of the metacarpal bone of the right thumb was dislocated backwards, producing a well-marked prominence, over which the skin was tightly stretched. There was much swelling of the back of the hand and wrist; indeed, such an amount of extravasation that it was impossible at the time to decide whether other injury did not exist. Considerable extension and pressure (without anæsthesia) were required before reduction was effected. A well-padded wooden splint was then applied to the palmar surface, extending upwards beyond the wrist, and a stout pad over the seat of the recent dislocation. The splint was kept on for a week, and the last bandage was discontinued at the end of a month. I saw him two weeks later, and he had then free use of the injured hand, although slight thickening around the joint remained.

Use of Cocaine in the Removal of Epithelioma of the Lip.

Dr. JOHN A. P. PRICE thus writes in the *Brit. Med. Jour.*, August 29th: A short time ago, I had occasion to remove a small epitheliomatous growth from

the lip of a healthy and hearty looking man, aged 60. As the patient objected to taking either chloroform or ether, I injected into the substance of the lip near the growth a little more than a sixth of a grain of cocaine, having previously painted the mucous membrane in the neighborhood with a five per cent. solution of the drug. After waiting about six minutes, I found the mucous surface almost anæsthetic, and the skin around the ulcer and growth far less sensitive than it was before injection. The growth was quickly removed, and a suture inserted, without the slightest flinching on the part of the patient, who afterwards stated that he could feel the skin being cut and the needles inserted, but that the pain was not very sharp. Half-an-hour after the completion of the operation, the patient complained of a burning sensation in the incision and needle-punctures, thus showing, I presume, that the effect of the drug was passing away. The case did well. In any similar operation in the future, I shall inject a greater quantity of the drug, with the hope of causing even less pain than was produced during the above operation.

Bronzing of the Skin in Syphilis.

Dr. G. CANTARANO, in a second memoir to the Medico-Chirurgical Academy of Naples, claims the existence of an atypical pigmentary syphilide similar, in many respects, to the cutaneous changes in Addison's disease. Of course, there exist certain differences in appearance, but the author contends that in both diseases this change is due to some action of the sympathetic nervous system.

Cocaine in Avulsion of In-growing Nail.

Dr. PORCHER relates, in the *Philadelphia Medical News*, July 11th, the case of a lady upon whom he operated for in-growing nail of the great toe. A 4 per cent. solution of the hydrochlorate of cocaine was instilled, drop by drop, from the point of a hypodermic needle, upon the raw surfaces in the furrows on each side of the nail. A rag wet with the same solution was kept pressed against the upper surface of the toe, and three injections of the same strength were made in the flesh at the base of the nail, just above the matrix. The tissues being thin here, and not very cellular, probably ten or fifteen drops may have been inserted. After the lapse of fifteen minutes, avulsion was performed in the usual way, without any pain being felt.

Abscess of the Abdominal Wall, Containing the Rib of a Rabbit, Healing Without Intestinal Fistula.

Dr. JAGOT reports (*Le Progrès Médical*) that a patient came to him with two pointing fistulous openings in the left groin; there was here also an inguinal hernia. Some two years before, the patient, a baker, aged forty-seven years, was taken with cramps while at his work; this was followed by vomiting; he was confined to his bed for several months. An abscess formed in the location mentioned was opened, but had never healed. On probing, a foreign body was felt, and with dressing-forceps two pieces of bone were removed, together six centimetres in length, which proved to be the rib of a rabbit. Patient was at the time obliged to eat his meals hurriedly. In five days the fistula was closed, and a complete cure followed. The hernia may have assisted in the arrest of the

bone; localized peritonitis followed, abscess of the abdominal wall, etc. The fistula discharged at no time anything but pus.

Digital Compression of Aneurism.

Dr. D. F. M. HÉCTOR, of Guanabacoa, relates an interesting case of aneurism in a Cuban medical journal. The patient was a man of 31 years of age who had had syphilis. Nine months before coming under observation, he had fallen on his right foot, two months after which he noticed a swelling in the right popliteal region; this gradually enlarged, and when measured it was found to have a vertical diameter of 12 centim., and a transverse diameter of 13 centim. The pulsations and fluctuations left no room for doubt that it was an aneurism. It was treated by digital compression in Scarpa's triangle for about twelve hours every day. On the tenth day the tumor, which had decreased in size, ceased to pulsate, and became hard. The compression was now practiced during alternate periods of two hours, a freezing mixture being applied to the tumor in the intervals. The periods were afterwards reduced to one hour, and the treatment only carried out during the daytime, and finally on the seventeenth day it was stopped; the patient being, however, kept in bed for sixteen days longer. The tumor has continued quite hard and without pulsation, and the man has returned to his work quite cured.

Removal of Lead Pencil from the Trachea.

Dr. EDWARD G. SMITH thus writes in the *Med. Herald* for September: On December 10th a son of Mr. F. Miller, aged six and a half years, inhaled a piece of lead pencil one and a quarter inches in length, one end of which was covered by a brass cap or ferrule, covered with nickel-plate somewhat worn. I was sent for and saw the patient at night-fall, seven hours after the accident. I found the left bronchus occluded, and loud puerile breathing on the right side; patient not suffering. The family having only one lamp, and it being impossible to get competent assistance, no operation was attempted. Next morning, twenty-four hours after the accident, I opened the trachea. A violent coughing spasm at once took place, but the foreign body did not come up, as I had hoped for. The wound was left open, covered lightly with carbolized sponge. There were no very troublesome symptoms, and the left lung did not collapse, the residual air and the rigid thoracic wall preventing. On the 25th of the month, fifteen days after the accident, the pencil came up with a large quantity of pus, but *not through the opening in the trachea*, which was gaping for it, but stopped in the chink of the glottis, and was removed by the fingers of the patient. Recovery is going on rapidly. From such a result, would it be proper to omit the operation in future cases and trust to nature?

Fruit-stones in the Intestine.

Professor FURBRINGER has recently published, in the Viennese medical papers, the case of a woman of the working classes, 49 years old, and subject to dementia, who showed signs of pain and irritation in the region of the anus. Scanty watery stools passed involuntarily for a week, accompanied by severe dyspepsia and emaciation. On examination, the integuments around the anus were found to be

sodden and covered with a sanious discharge; there were also inflamed piles. On introduction of the finger into the rectum, 98 plum-stones were removed; they were imbedded in the depressions between large, partly gangrenous, bleeding masses of congested mucous membrane. Pieces of pack-thread, apple-peel, plum-stalks, and large masses of rags, were also extracted from the bowel; the rags were covered with very thick clear mucus. The mucous membrane of the rectum was deeply injected, and ulcerated in parts. Two days later, 137 plum-stones, with masses of fæces, were brought away; and, after the administration of cold enemata and castor-oil, vast quantities of fecal matter were voided from the anus. The symptoms of proctitis rapidly disappeared. It was found that the foreign bodies had not been introduced through the anus; the patient had been seen, shortly before her illness, to enter a cottage for the purpose of begging, and to steal, from a heap of fruit collected for the manufacture of jam, a quantity of plums, which she at once swallowed entire. At other times, she was detected swallowing eatable or uneatable substances, to appease the pangs of hunger.

Silver Dollar in the Œsophagus—Extraction.

Dr. HENRY C. HOLTON thus writes in the *Peoria Med. Mo.*, June, 1885: On the morning of May 24th, at 10:30 o'clock, Henry Robinson, a young man 24 years of age, came to my office to have a silver dollar, which he had swallowed one-half hour previously, removed from his throat.

The accident occurred while playing with a little child. He was lying on his back and had the coin in his mouth, or rather between his lips, when the child reached for it, but instead of grasping it, she accidentally struck it with her hand and knocked it into his throat. The coin got beyond his control before he could stop it. I made several efforts to reach it with a pair of forceps about eight inches in length, but failed.

At this time Dr. Odbert, of Indianola, called on me, and was invited to examine the case. He had a pair of forceps about two inches longer than mine, at his office. We repaired to Indianola at once, and his forceps were introduced, but to no avail. Dr. Oldbert and I then drove to Danville to try to get proper instruments for its removal. Failing to find them there, we immediately dispatched to Philadelphia for forceps, and in due time they arrived. In the meantime Mr. Robinson was kept on a liquid diet.

On the evening of the second day of June we operated. Dr. O. introduced an œsophageal bougie into his throat for the purpose of locating the coin, which he succeeded in doing at a distance of nine and one-half inches from the front teeth in upper jaw, or at the œsophageal opening of diaphragm. I then introduced a pair of forceps, and succeeded in grasping and withdrawing the dollar from his throat. This is the only successful operation in my knowledge where so large a foreign body has been extracted from the œsophagus so low down.

Experiments Upon Engrafted Bone.

In the *Gazzetta degli Ospitali*, Dr. AMBROGIO FERRARI comes to the following conclusions:

1. Pieces of bone engrafted into the shaft of a long bone become completely united and continue to live.

2. They not only continue to live, but also grow.
3. That such results follow without reference to the position in which the engrafted bone is placed.
4. The reunion of grafts occurs by a true vascularization, which takes place between the engrafted bone and that into which it is introduced.
5. That a bony callus, periosteum, and medulla, are formed in relation with the engrafted bone.
6. That, as in fracture, this callus possesses a temporary vitality.
7. That after a certain time the callus, periosteum, and medulla are absorbed, and the engrafted bone is nourished only by a greater vascularization.
8. That grafting occurs most completely if the inserted bone is in exact adaptation with the margins of the bone receiving it. While this observation is not verified, in a case where the opposite condition existed, a longer time was necessary for union to take place.
9. The most complete and careful antisepsis is required in order that complete union of the engrafted bone may occur.
10. The engrafting of several pieces of bone succeeds completely.
11. That in case of engrafting of several pieces of bone with partial suppuration, union of some of the pieces may take place, provided suppuration does not extend to that portion of the engrafted bone in communication with the medulla.
12. Besides antiseptic precautions, compression is required to maintain contact between the medulla and the pieces of bone engrafted, in order to obtain a successful result.

Rare Form of Dislocation of the Shoulder.

A case of unusual dislocation of the humerus is described by Dr. K. E. LINDÉN, under the name of "luxation humeri erecta," in the *Transactions of the Finland Medical Society*. The patient, a laboring man, aged 35, had been thrown down in a quarrel; and, while he lay on the ground, his opponent pulled his arms upwards, at the same time kicking him violently in the upper third of the left humerus. When Dr. Lindén saw the man, three days later, the humerus formed an angle of about 130 degrees with the acromion and clavicle; the forearm, which was pronated, lay horizontally over the head; the arm was much contused, and the seat of severe pain; while the hand, which was supported by the right hand, was numb. All attempts at reduction caused much pain. The head of the humerus could be felt with unusual distinctness in the axilla, where it lay below and some what to the inner side of the glenoid cavity, resting against the lower border of the pectoralis major muscle. Reduction was effected, under chloroform, by making extension upwards and outwards. The arm was useless for six weeks; two and a half months after the injury, the man was able to work, though his arm was still weak. Dr. Lindén has been able to find only five cases of this form of dislocation recorded in medical literature: two by Middeldorpf, who first described it in 1858, and gave it the name of "luxatio humeri erecta;" one by Bush (1863); one by Nikolasen (1873); and one by Alberti (1884). In all the cases, the arm was forcibly extended upwards when the displacement occurred. The symptoms in all resembled those described by Dr. Lindén as met with in his

case: the head of the bone lay below the glenoid cavity, at the inner border of the scapula; the deltoid muscle was enlarged; the humerus was raised above the horizontal plane; and the forearm rested on the head, the hand being supported by that of the other arm. With regard to the difficulty of reduction, Dr. Lindén attributes it to the greater tuberosity of the humerus being caught against the edge of the cavity of the joint.

Injectons of Corrosive Sublimate in Gonorrhœa.

The *London Med. Record* tells us that a thesis on this subject was presented to the Société de Thérapeutique by M. Constantin Paul, the author being one of his pupils (*Annal. des Mal. des Organes Génito-Urinaires*, January, 1885). Gonorrhœa must be definitely placed among infective diseases, because of the presence of an organism which is capable of cultivation. M. Chameron has carried cultivation of the 'gonococcus' to the ninth generation in M. Pasteur's laboratory. With the fluid of a ninth culture, M. Paul produced a urethral discharge in four or five days, but it only lasted two days. The organism is destroyed by a solution of corrosive sublimate, 1 in 20,000, provided the injection be used warm, as it is thus better able to penetrate into the urethral follicles. By this means, M. Paul says, gonorrhœa in men may be cured in seven days at most. In the discussion which followed, M. Martineau remarked that in women he had used douches of corrosive sublimate (1 in 500). In cystitis he had used urethral suppositories, 2 centimètres long, containing not more than 6 milligrammes of sublimate. Moreover, as gonorrhœa with its micrococcus always penetrates into the urethral and peri-urethral follicles, M. Martineau also cauterizes these with a very fine-pointed galvanic cautery. Under such treatment, gonorrhœa in women may be cured in a fortnight or three weeks. M. Dujardin-Beaumetz thought it should be ascertained whether the gonococcus was not present in all purulent discharges in women. M. Moutard-Martin asked why M. Martineau used a solution of the strength of 1 in 500, if, as M. Paul had affirmed, a strength of 1 in 20,000 were sufficient to destroy the micro-organism.

Galvano-Puncture in a case of Aneurism.

The *Med. Press*, August 26th, says: In the *Revista Internat*, Dr. Brancaccio relates a case of aneurism of the ascending aorta very much relieved by galvano-puncture. There was no previous history of any value except that of alkalism. The tumor projected about an inch in the infra-clavicular region, and was bounded above by the upper border of the second rib, to the left by the mammary line, to the right by the sternum, whilst below it merged into the cardiac dulness. The heart was healthy; the radial pulse, small and occasionally intermittent, was synchronous with the beat of the heart. Severe pain in the chest, cough and dyspnœa were present. Daniell's battery, consisting of fifteen elements, was employed. Two strong steel needles were plunged 3 cm. deep, 4 cm. from each other, in the third intercostal space. The left needle was connected with the positive pole, the right with the negative. The operation lasted sixteen minutes. Dr. B. saw the patient ten hours after: the pain had then disappeared, respiration was normal, the swelling diminished, the pulse from 118 had fallen to 90; altogether he was stronger and better. The second operation took place

twenty days later, the number of elements being increased to twenty. Severe pain, rigors, pyrexia followed, but soon passed away. The operator thought fit, however, to lessen the number of elements to fifteen at the third and fourth operations. Eight weeks after the last operation the patient left the hospital at his own desire. His general condition was much improved. The cardiac pain had disappeared, the tumor was smaller by at least an inch, the cardiac impulse was more powerful, the pulse more regular, fuller, and stronger. The author recommends galvano-puncture for small aneurisms which have not extensive communication with the artery. The case proves at the same time that the situation of an aneurism just above the aortic valves is no contra-indication to the use of galvano-puncture, as several authors have stated, thinking that the difficulties of clot formation in that situation were insuperable.

Prostatotomy.

Dr. C. A. HARMON, of Lancaster, Ohio, thus writes in the *Med. Age*, July 25th: This is an operation which I believe has not been advised or attempted; yet, when we consider the great number who die from hypertrophy of the prostate and its sequelæ, there would seem to be a demand for some mode of relief.

When the hypertrophy obstructs the flow of urine, all authorities advise the use of the catheter, and the instruction of the patient in the manner of its introduction. My observation has been that when the use of the catheter becomes frequently necessary, life is drawing near its end, catheter fever or cystitis stepping in to close up the case.

This disease is the cause of much suffering and the loss of many lives of men who, could it be cured, would be good for ten or twenty years of active business life. Ovariectomy has saved the lives of many women, why not prostatotomy save the lives of many men? The operation is simpler, the peritoneum not being opened, and drainage easy.

The first steps in the operation will be the same as in lithotomy. When the gland is reached you will proceed according to the extent to which you wish to carry your operation; but as in most subjects the gland surrounds the urethra, making it impossible to remove it all, and as the middle or false lobe is the offending part, it will only be necessary to remove that part, which can be done by making your incision down to and through the posterior portion of the isthmus connecting the lateral lobes to a point beyond the point of entrance into the urethra of the ejaculatory ducts (very important ducts even to men of fifty or sixty years), then from the bottom of this incision make a V by two incisions, inclosing the middle lobe; then peel the lobe out of its capsule. This lobe has a very thin capsule, but it is very strongly reinforced by the bladder.

The vessels encountered in this operation are the internal pudic, vesical and hæmorrhoidal—all small. The injury done to the vessels will, probably, by the diminished blood-supply, arrest the growth of or cause the atrophy of the lateral lobes.

Living in a small city, it may be some time before I will have an opportunity to put the operation to a practical test; but it looks to me feasible, and I will claim credit for its origination if no one else antedates me.

Years ago, to my medical associates, I spoke of the feasibility of tapping the

pericardial sac and the ventricles of the brain, but made no record of the same. They have since become recognized operations.

On the Significance of Osseous Lesions in the Diagnosis and Treatment of Inherited Syphilis.

The *London Med. Times*, Aug. 22, tells us that a paper on this subject, by Dr. R. LOMER, of Berlin, appears in the *Zeitschrift für Geburtshilfe und Gynäkologie* (Band x., Heft 2). It refers to the disease of the bones described by Wegner. Dr. Lomer holds that the presence of these changes in a well-marked form is a proof of syphilis; and applying this test, comes to the conclusion that the large majority of cases of premature labor are due to this disease. General practitioners, in Dr. Lomer's opinion, know very little about these bone lesions. They are to be demonstrated by exposing the femur and making a longitudinal section of it. In a healthy bone, the junction of cartilage and bone is a simple line, either straight or undulating, but sharp and well defined. In a syphilitic bone it is a broad layer, from which irregular processes project into the cartilage. The epiphysis is either quite loosened, or there are deep fissures in the bone below the line of ossification. In some cases these changes can be easily seen with the naked eye, but in others they may be so slight as to need microscopical examination of carefully prepared sections. Although this disease indicates syphilis, yet a normal condition of the bones is not proof of the absence of syphilis. Dr. Lomer puts before his readers the following generalizations, based on the examination of 43 fetuses which had died in utero. When the bone disease is well marked, the liver and spleen are abnormally large. It makes no difference in the degree of the changes present, whether the syphilis is derived from one or both parents, whether in the parent the disease be one year old or ten, whether secondary symptoms have persisted or not, whether the parent has been treated or not, or whether the child be large or small. Syphilitic fetuses differ in appearance from non-syphilitic. The latter are brown and mummified, the former flesh-colored and more oedematous. In the non-syphilitic the mother can commonly assign a date for the infant's death, and the weight of the fetus corresponds to the period indicated by her statement. This is not the case with the syphilitic; and in them the placenta is commonly unusually heavy in proportion to the weight of the fetus.

Neuromata in Connection with the Median Nerve.

Mr. GODLEE thus writes in the *London Med. Times*, Aug. 29th: James S., aged 7 years, 10 months, was admitted on February 2d, with a tumor of the palm of the hand, which the child had first noticed about one year ago. It had never caused him any inconvenience or trouble at any time. He could give no reason for its presence: it had remained quite stationary in size.

On admission he was a well-nourished boy. There was a circumscribed, semi-fluctuating tumor apparently beneath the palmar fascia of the left hand, on palpation conveying the idea of a palmar ganglion; its contents could not be emptied, nor could the tumor be diminished in size on pressure. Manipulation produced no pain; sensation was normal; there was no unnatural pigmentation over the hand, and no pulsation.

Under an anæsthetic Mr. Godlee cut down on the tumor after an Esmarch's bandage had been applied. The incision was $1\frac{1}{2}$ inches long, in front of the annular ligament. It exposed what appeared at first sight to be, as had been expected, a fatty tumor; it bulged into the wound, and on the surface was easily isolable. But on endeavoring to separate it above, it was found to have a thick pedicle, coming down from beneath the annular ligament, while below it gave origin to numerous thick white cords, the much hypertrophied branches of the median nerve to thumb and index finger. It was thus clear that the tumor was intimately connected with the median nerve; in fact, it appeared to be little more than an enormous hypertrophy of the fibrous elements of the nerve. An endeavor was made to separate the mass from the nerve, and a considerable portion was removed, but at the cost of dividing one or two of the thick cords passing to the fingers. Ultimately a considerable portion of the mass was returned into the wound.

The wound, which was treated antiseptically, healed without the slightest trouble, and the boy left the hospital ten days after the operation. He attended from time to time, and beyond some slight numbness and anæsthesia in the thumb and index finger, suffered no ill effects from the operation. The numbness was less than had been anticipated, and confirmed the idea that the nerves cut were very much hypertrophied, and thus less important branches than they appeared to be.

Remarks by Mr. Godlee.—The case is placed on record as one of considerable rarity and of difficult diagnosis. I confidently expected to find a lipoma beneath the palmar fascia, and am unaware of any previous record of a similar condition.

Prolonged Retention Treated by Aspiration Daily for Five Weeks.

Dr. J. T. HAGUE thus writes in the *Lancet*, August 29: Amongst instruments of modern invention, few are of more practical use in the treatment of disease than the aspirator, and one of its most generally recognized uses is for emptying the bladder in cases of retention where a catheter cannot be passed. In such cases the choice of treatment lies between puncture of the bladder per rectum with a curved trocar and cannula—a proceeding certainly requiring expertness—and aspiration immediately above the pubes. The latter treatment is certainly easy, and, as I think, safe. At any rate the following case bears out that belief.

On September 3d last, I was called to see a patient, aged ninety, who was suffering from retention of forty-eight hours' duration, due to enlarged prostate. Of course catheterization was the treatment indicated, and this was tried most carefully, and perseveringly by Dr. McGuinness and myself with both silver and soft catheters; but, partly by reason of the enlarged prostate and partly from numerous false passages, which made it almost impossible to keep the catheter in the urethra, all efforts to reach the bladder with catheters failed. Then, as it was an absolute necessity that immediate relief should be given, we decided to aspirate. That was done, and thirty-five ounces of urine were drawn off, the operation causing but little pain. On the following morning, as no ill effects were visible, it was decided to aspirate again, instead of trying the catheter, so that the urethra might recover itself, and the false passages heal, by rest. This

was done, and has been repeated daily for thirty-four days, all the attempts by several surgeons to catheterize during this meeting with failure. On the 7th of October, however, I succeeded twice in passing a soft catheter. This patient therefore—an old man of ninety—passed no water per urethram for five weeks, during which period he was aspirated thirty-four times, and has had neither cystitis nor peritonitis; the only discoverable ill effect being an inflammatory thickening about the seat of the numerous punctures.

This is the third case in which I have aspirated the bladder: one case being a stricture, with acute gonorrhœa; the other, calculus impacted in the urethra. In neither of these cases, however, was it necessary to operate more than once. I have never found any ill consequence arise from the operation, and I cannot see what advantage the old method of puncture through the rectum possesses over it. It would certainly have been impossible to have repeated this latter proceeding thirty-four times.

Sprain of Ankle-joint Treated by Rest and Compression with an Elastic Bandage.

Dr. T. A. CUNNINGHAM thus writes in the *Med. Times*, September 5th: The following case of severe sprain of the ankle-joint, successfully treated in a woman 60 years of age by the elastic bandage, may prove of interest:

Mrs. I., æt. 60, wife of Captain I., Twenty-second United States Infantry, received a sprain of the ankle-joint on April 3d, while moving her household effects from one house to another, her husband's quarters having been taken by an officer who ranked him. This regulation is known in the army as "turning out," and sometimes, as in this case, is a matter of serious trouble and inconvenience. I saw her about ten minutes after the accident occurred, and found the parts in the following condition. Sprain of the ankle-joint, rupture of the external lateral ligament, and the foot turned inward to such an extent as almost to amount to a dislocation; also effusion of the articular fluid. The foot was straightened and the joint well rubbed with lotio plumbi subacetatis et opii, and then an Esmarch bandage, which had been condemned for its original use but still retained sufficient elasticity to compress the joint, was firmly and evenly applied to the entire foot and joint and for about two inches up the leg. The foot was kept in an elevated position, and the patient kept in bed.

April 4th, 9 a. m.—Patient slept well, and has suffered no pain to amount to inconvenience. Bandage was removed, and the entire joint was found to be ecchymotic and very tender to the touch. The parts were well rubbed with camphorated oil and the bandage reapplied.

This treatment was continued, and at the end of the fourth day she was able to get up and attend to a few of her household duties, suffering no pain or inconvenience from the bandage, but rather regarding it as a support. She attempted sometimes to take off and do without the bandage, but she was compelled to come back to it, as she could not walk without it.

She was discharged at the end of three weeks, perfectly cured.

I consider the elastic bandage the treatment *par excellence* for sprains, if seen early and before much swelling has taken place, for the following reasons:

1. It promotes absorption of the effused fluid.

2. It prevents undue swelling.

3. It can be more smoothly and evenly applied, and by its resiliency supports and relieves the torn and sprained tissue much more satisfactorily than an ordinary bandage.

4. It allows the patient, after a few days, to attend to nearly all of his or her ordinary avocations about the house.

Use of the Electric Light in the Surgery of the Bladder and Rectum.

Dr. A. W. MAYO ROBSON, thus writes in the *Lancet*, August 22d: The following brief notes on the advantages of a portable electric lamp in operations in the bladder and rectum may be of interest.

A. S—, aged fifty-four, living near Scarborough, who had suffered for three years from hæmaturia and other symptoms of tumor of the bladder, came to Leeds to consult me. I told her that I suspected tumor of the bladder, but could not positively say until I had dilated the urethra and carefully explored the viscus. She consented to have this done, but asked me to perform no extensive operation without further consulting her. On June 11th, under ether, I dilated the urethra by means of Weiss's dilator, and passed my index finger into the bladder, when it impinged on a hard, flattened, and nodulated tumor attached to the back part of the bladder close to the entrance of the left ureter, by a base of quite an inch and a half. I now passed in a small half-candle Swann's electric lamp, fixed to a long slender handle and connected to a Faure's storage battery, thus illuminating the interior of the bladder, exposing the tumor, and showing me a bleeding surface, to which I was enabled to exactly apply a strong perchloride of iron solution. Feeling that I could with some difficulty remove the tumor, but not without considerable risk to the patient, I explained the matter fully to her and her friends, who decided not to have any further operation performed, as I could not promise them that the growth, which I believed to be epithelioma, would not return. My patient was much relieved of her hemorrhage, had no constitutional symptoms, and did not suffer from incontinence, the next night only having to pass urine once. She was enabled to return home after a short time, apparently relieved.

In a case of rather extensive internal hæmorrhoids which I had removed by the clamp and cautery, I noticed a little bright-red blood trickling from the anus just before the patient was being removed from the operating-table, and on dilating the rectum found that there had been considerable hæmorrhage into the bowel. I ligatured several oozing points, but as the bleeding continued I inserted my electric lamp and at once lit up the site of operation, revealing a pumping artery more than an inch from the anus, after the ligature of which there was no more trouble. My small battery is quite portable, and can be used either for the light or for a small cautery; it can be carried in an ordinary instrument bag, and when it is exhausted is soon recharged by being connected to a fixed chromic acid battery. Mr. Oliver, the electrician at the Leeds Infirmary, kindly made mine for me; but I believe that Messrs. Mayer and Meltzer manufacture a similar apparatus.

Simultaneous Dislocation of both Ends of the Clavicle.

After relating this case in the *Lancet*, August 8, Mr. HULKE says: Dislocation of the clavicle is not a common injury. In a period of twenty-six years at the Middlesex Hospital it was met with only twenty times, a proportion of barely 3 per cent. of all the dislocations treated; though the statistics of M. Guret show a slightly higher figure—viz., 4.88 per cent. Half of these were found to affect the acromial and half the sternal extremity. At the sternal end dislocation forwards is most common, backwards much less so, and upwards very rare. At the acromial end dislocation backwards, or, more correctly, dislocation forwards of the acromion beneath the clavicle, is most frequent. Complete dislocation of a bone from all its ligamentous supports, is somewhat rare, but varies greatly with different bones. The astragalus has probably offered most examples: sometimes it is driven forwards from its place, like a cherry-stone between the fingers; at others it has been found turned completely topsy-turvy. Morel-Lavallée relates the case of a dragoon, who was flung to the ground and on whom his horse fell. The left os innominatum was found at the autopsy to be completely dislocated at both extremities. There is one long bone, the lower jaw, in which simultaneous dislocation at both extremities is the rule. Thus, Malgaigne met with it in fifty-four out of seventy-six cases; whilst Hamilton gives two out of three as the proportion of bilateral to unilateral dislocation. An instance is related by Boyer in which the fibula, driven upwards by a dislocation of the foot, became detached from both its articulations, and rested on the anterior surface of the shaft of the tibia. Two examples of the ulna are on record; and one of the humerus, in which case, as the result of a railway accident, the forearm was dislocated backwards, whilst two-thirds of the shaft of the humerus were driven through the tissues of the shoulder. The present case derives its interest from its great rarity, two other cases only being previously recorded—the first a very incompletely published account by Richerand and Gerdy, and the second an excellent observation by Morel-Lavallée. In this latter the injury happened to a carrier, whose wagon collided in passing a pile of wood. His left side was squeezed against one of the corners of this pile, and the wheel coming up behind struck him violently on the posterior and external aspect of the right shoulder. In this case also the bone was found to lie in an antero-posterior rather than in a transverse direction, and the description of the deformity produced tallies closely with the present case. The fact that in the instance now recorded complete reduction of both extremities was easily affected appears unique, for in Richerand's case the inner end, and in Morel-Lavallée's the outer, remained permanently irreducible.

Rosacic Urine in the Wounded.

The *London Med. Times*, June 20th, says that at the recent Paris Surgical Congress, Professor Verneuil drew attention (*Semaine Médicale*, No. 15) to a point in the examination of the urine, which he has had under investigation since 1867. The following are his conclusions: "(1) In wounded persons, and those who have undergone operations, the urine sometimes presents a rose-colored deposit which adheres to the vessel, and which consists in a peculiar matter to which the significant name of *acide rosacique* may be applied. (2) It

usually coincides with oliguria and the concentration of the urine, the ordinary consequences of traumatism. It is manifested soon after the occurrence of the wound, is only temporary, only lasting from one to three days, and rarely reappears during the treatment. It may therefore be easily overlooked, and frequently is so from want of being sought for. (3) It may appear after any kind of wound, and in subjects whether strong or feeble, and who are in apparent good health or those affected with prior constitutional disease, so that its origin and significance would seem at first sight quite uncertain. But minute examination of antecedents, the coincidence of other symptoms, and necroscopic results, have clearly established that it is dependent upon various lesions of the liver, as cirrhosis, chronic congestion, hydatids and cancer. (4) Changes in the liver induced by alcohol seem especially to induce these rose deposits, under the exciting influence of traumatism, for the symptom is frequently observed in more or less hardened drinkers, after various surgical accidents and different operations. (5) The rosacic urine possesses therefore a real semeiological value, inasmuch as it announces almost certainly the morbid condition of an important viscus: a morbid condition which is too often latent and very difficult of recognition, and which nevertheless exerts a more or less mischievous influence on the progress and terminations of surgical affections and traumatic lesions. (6) The prognostic value is not less considerable. Doubtless, the presence of this deposit is not always followed by accidents in the wounded part, while the gravity of such accidents are in relation with the extent, the degree and the form of the hepatic lesion. Nevertheless, it is of importance to be aware in advance of the complications to which these persons are liable. These accidents, according to my experience, are secondary hemorrhage and gangrene. (7) In order to prevent as far as possible, or to contend with these redoubtable complications, all the modern means for securing hæmostasis and asepsis must be resorted to, while medical treatment should be simultaneously directed to the hepatic affection. And although the drug-treatment for alcoholic cirrhosis is as yet but little advanced, we should neglect none of its resources in drinkers who may have been or may be wounded, when their urine exhibits this rose color."

A New Antisyphilitic.

Dr. JOSEF SCHUTZ thus writes in the *Deutsche Med. Wochenschr.*, No. 14, April 2, 1885:

Comparative experiments with the various subcutaneous remedies recently introduced for the treatment of syphilis have resulted in demonstrating the superiority of Wolff's glycocoll-Hg., considered as a curative agent. Its use, however, is attended with serious disadvantages arising from its readiness to decompose, the necessity of employing only fresh preparations, its costliness, the severe pain caused by its application, and its occasional production of a bloody diarrhoea. I have, therefore, endeavored to discover some other of the amid-compounds of mercury, which, like the foregoing, should contain a product of the destruction of albumin, but should be cheaper and more readily prepared. The desired substitute, I have reason to think, has been found in a combination of the mercurial salt with urea, the diamid of carbonic acid.

I at first made use of it in a solution consisting of 1.0 sublimate, 100.0 water,

0.22 urea. This was ascertained to be harmless in its action on man, but as the injections were painful in consequence of containing too small a proportion of urea, the quantity of the latter ingredient was increased to 0.5.

According to a carefully prepared table showing the relative effects of injections with different solutions, and of mercurial inunctions, the latter method is the least rapid in its operation. In this respect the $\text{HgCl}_2 + \text{U}$ solution compares favorably with any other. Its administration is also more easily managed, since it does not require to be freshly prepared on every occasion. 1.0 gm. sublimate is dissolved in 100 ccm. of hot distilled water, to which, when cool, 0.5 gm. urea is added. Such a solution, from chemically pure ingredients, has been in use at my dispensary for more than eight days, without losing its strength or showing any signs of decomposition. Not requiring, therefore, to be renewed daily, like the glycocoll-Hg., the trifling cost of its ingredients makes it a very *inexpensive* preparation.

But the chief recommendation of the $\text{HgCl}_2 + \text{U}$ is the *painlessness* of its application. On this account it is always preferred by patients to either the $\text{HgCl}_2 - \text{NaCl}$ solution or that of glycocoll-Hg., since it causes merely a slight feeling of tension, which disappears in from two to six hours.

Diarrhœa, so far, has never resulted from its operation, while that symptom has been observed in three of my dispensary cases after the use of glycocoll-Hg.

Mercury appears to be more rapidly excreted under the employment of $\text{HgCl}_2 + \text{U}$, the metal having been detected in the urine within twenty-four hours after a *single injection*.

Relapses are no more to be absolutely prevented by this remedy than by other antisyphilitics. Whether they are any less likely to occur is a question to be determined by future experience.

The frequent and early appearance of stomatitis after injections of $\text{HgCl}_2 + \text{U}$ may be regarded as an additional proof of its speedy elimination by the organism.

The Tarsal Tumor.

Dr. J. VOSE SOLOMON thus writes in the *Lancet*, July 4, 1885: The tarsus is frequently the seat of a well-defined tumor, of the size of a boiled green pea, which has a tendency to soften and discharge itself by ulceration through the cartilage on its conjunctival surface. It is a disease of the Meibomian follicles, from which no age is exempt, though it is more frequent in the interval of adolescence and the middle period of life, and oftener among women than men.* I have seen the tumor in an infant in arms, and occasionally in a man well advanced towards the patriarchal term of life. It varies in size and number. I operated upon one as large as half a cob-nut, which almost completely covered the upper eyelid, and caused acute inflammation of the integument covering it. The disease is often solitary; but I have seen the upper eyelid studded with little tumors of the size of partridge-shots, and in this instance they had excited considerable distress and conjunctival inflammation. In the upper lid the tumor is more often situated near its centre than in the lower, where the extremities of the cartilage appear to have

*In eighty-nine cases registered at the Birmingham Eye Hospital, 65 per cent. were females, and 35 per cent. males. I am indebted to Mr. Ensor, our house surgeon, for these figures.

a greater predisposition to the disease; and it is here also that the morbid process extends occasionally into the free margin of the tarsus. In cutting into a tarsal tumor, pus sometimes escapes from its centre, no indication of its presence being afforded by the color of its integument, which retains in many cases a normal appearance; whereas in others the growth of the tumor not infrequently excites inflammation of the skin covering it, and the underlying cellular tissue may become the seat of an abscess. The evacuation of pus by incision from either of these situations is not followed by reduction of the inflammatory state, the tumor apparently acting as a foreign body, for on its removal all irritation soon subsides. In a few cases complaint is made that the vision is dim, which disappears on removal of the substance; in some there is pain with a sense of weight, on account of which surgical aid is sought. The tarsal tumor sometimes disappears by absorption, independently of treatment of any kind. Its tendency is to soften, evidence of which is afforded by the appearance of a dark mark of irregular outline on the conjunctival side of the swelling; and if not interfered with, this part ulcerates, the jelly-like contents escape, and a rather hard button-shaped granulation results, which by friction on the eyeball may occasion much pain and inconvenience.

In a case recently under my care at the Eye Hospital, the tumor, which had not softened, bled when sliced as freely as if it had been a *nævus*. If the removal of the tumor is decided upon prior to softening having taken place, the whole of the disease should be excised, or the cure will not be completed, and reproduction be almost certain. And where the growth has invaded the free border of the tarsus it must be removed by the knife, care being taken that the notch in the cartilage does not implicate the skin. Large tumors in a state of inflammation involving the integument are most conveniently treated by excision externally. Where softening has been evident, I have sometimes trephined the conjunctival aspect of the growth, but it is more painful than a crucial incision. The application of solid nitrate of silver to the walls of the emptied cyst I hold to be a barbarism altogether unnecessary, and often occasioning much suffering and loss of time to the patient.

Suicidal Wound in the Throat.

Before a recent meeting of the Academy of Medicine in Ireland, Professor STOKES brought forward a case of a suicidal wound in the throat, and exhibited the head and neck of the subject of it. He was a man, fifty-five years of age, the possessor of a somewhat large farm, near Balbriggan, and in very comfortable circumstances. The only person who lived with him was a female house-keeper, who was also his mistress. The latter fact was not, for a time, known to the woman's relatives, but when they discovered it they took steps to make the man marry her, to which he made no objection. Arrangements were made for the marriage, but, from one cause or other, it was delayed. On a Sunday, towards the end of last January, he did not appear at church, or elsewhere, and his friends and relatives went to his house to look for him. They found the door locked, and no sign of any one. They went away, and, after some hours, returned again and found the door still locked. They broke it open, and, on going to a garret, found the unfortunate woman, lying on her face, dead, with her throat cut from

ear to ear. Close beside her lay the man, also dead, he having committed suicide by cutting his own throat. He lay on his face, and grasped in his hand was a small penknife, the blade of which was still in his neck. He had never previously shown any signs of violence or eccentricity. The gentleman who had furnished him (Professor Stokes) with the specimen wrote, saying that the deceased was a "distant man, who did not care much for society, but, in fact, rather avoided it, while at the same time he was not quarrelsome or a disagreeable neighbor." One of the remarkable circumstances of the case was that, when his body was discovered, the penknife was so tightly grasped in his fingers that it was only by pulling them out that it could be released. Another was the extraordinary magnitude of the wound, and the depth to which it was carried, without any injury being done to the cervical vessels. The man must have made two or three cuts at each side. He believed that death was not caused by the hemorrhage—though a great deal of blood was found—but by the falling down of the epiglottis on the glottis, which caused asphyxia. Another point was the sudden occurrence of rigor mortis, and the marked extent to which it prevailed, as was proved by the extreme tenacity with which the knife was grasped in the hand.

The President observed that it was generally found that the more sudden was the occurrence, the more sudden and violent was the rigor mortis. In cases of death from slow, lingering diseases, like consumption, it came on slowly—after death from lightning it was very rapid. If there was so much bleeding, he could not understand how the thyroid artery could have escaped; and the influence of hemorrhage on the rigor mortis was also an important point to determine.

Mr. Foy mentioned a case of a man who cut his throat with a razor, from ear to ear, dividing the larynx completely, and also the superior thyroid artery. He (Mr. Foy) did not see him until an hour after the accident, and yet he was then able to sit up, and made violent but ineffectual efforts to drink. In the great majority of suicidal wounds inflicted on the throat, the carotid artery escaped, probably because the first gush of blood weakened the suicide, so that he was then unable to carry the wound deeper.

On the Importance of Early Paracentesis in the Treatment of Ascites.

Dr. EDWARD DRUMMOND thus writes in the *Practitioner* for July: Surgery and more especially that branch of it, abdominal surgery, in which my friends Sir Spencer Wells, Lawson Tait, and others have of late years achieved such signal successes, has for a long time almost ceased to come within the range of my professional work; and, indeed, abdominal surgery has become one of the most legitimate of specialities; but there is a class of cases belonging to the border land of medicine and surgery to which special circumstances have of late years directed my attention. I refer to cases of ascites calling for relief by "tapping."

It was certainly the practice once, and I believe it is still largely the case, to defer this operation too long, and only resort to it as a mere palliative measure, in order to give a few hours or days of respite from the suffering to which the presence of so much fluid in the abdomen naturally gives rise.

I have witnessed a large number of cases of cardiac, renal and hepatic dropsy,

in which all the ordinary routine treatment by drugs, hot-air baths, etc., failed to arrest, by a single hour, the onward march of the disease and its accompaniments; where a laboring heart, a cirrhotic liver or disorganized kidney, had its difficulties intensified by the mere hydrostatic pressure of a great mass of fluid distending the peritoneal cavity.

Not to mention the increased difficulty, nay, the almost impossibility, of necessary movement, exercise, etc., all absorbent action of the vessels must be reduced to a stand still, every function of digestion, assimilation, micturition, defæcation, obstructed; respiration and oxygenation of the blood impeded; the heart's action embarrassed; and the mere weight of fluid rendering compulsory the maintenance of a sitting posture, by day and night, must be fearfully exhausting to a patient in so advanced a stage of disease, in which the blood is so impoverished and so highly charged with the products of arrested secretion.

Proper diet, with a minimum of fluid, and such medicines as acetate of potassium, sulphate of magnesium, nitrous ether, jalap, elaterium and other hydragogue cathartics, and still more, perhaps, digitalis, casca or convallaria majalis, are no doubt useful, especially in the early stages, while iodide of potassium with iron and Baillie's pill must not be forgotten. All these, however, and more similar preparations, will only excite illusive hopes.

If the fluid be removed by *early* and, if necessary, *repeated* "tapping," followed by well-regulated firm pressure, then these remedial agents become really potent for good.

It is generally held that such a course of treatment is more especially useful in dropsy dependent upon cirrhosis, but I have found it not less successful in cardiac and renal dropsy, and, in a fair proportion of cases, it has proved *cure*, while in all it has diminished the patient's sufferings, and made his invalid state endurable.

Where an advanced form of Bright's disease, a progressive cardiac lesion, malignant or albuminoid disease of the liver, or like inevitably fatal malady, stands behind, it can of course only be a palliative, but it is a *real* one; it robs a necessarily fatal illness of its worst horrors; gives literally a *breathing space*, a respite from unavoidable suffering, and adds some weeks or months of comfort to a doomed existence.

When, however, the ascites depends on a cause which is temporary—wholly removable or capable of becoming stationary—then paracentesis so practiced is the chief means of cure. In any case it is impossible to insist too strongly on the importance of an early recourse to it, as adding tenfold efficacy to otherwise impotent therapeutic means.

Large Calculi Removed by the High (Supra-Pubic) Operation.

The great authority, SIR HENRY THOMPSON, relates four cases of supra-pubic lithotomy in the *Lancet*, and then goes on to say: At the close of these four successful cases of supra-pubic lithotomy, I would remark that there appears good reason to believe that this operation with recent modifications furnishes the desideratum which an increased employment of lithotripsy has recently created. Lithotripsy at a single sitting has been rendered capable of dealing efficiently and safely with almost all the cases of stone which adult patients furnish. It is fre-

quently competent to remove uric acid calculi weighing from two to three ounces; and is so almost invariably where there is a capacious urethra, such, indeed, as is usually present in the elderly adult—that is to say, one which admits without unduly stretching a No. 16, 17, or sometimes a No. 18 of the English scale.

Our experience of oxalate of lime calculi scarcely enables us to say how large an example may be dealt with by lithotrity. The largest I have crushed weighed 640 grains, or nearly an ounce and a half, a very considerable stone. The problem thus left remaining for solution is, What is the best cutting operation for hard calculi (urates and oxalates) which weigh from about two ounces and upwards, as well as for those not quite so large, which are so peculiar in form (as occasionally but very rarely happens) that the lithotrite fails to grasp or retain them? I think there is no doubt about the answer—viz., that it is the supra-pubic, and not the lateral operation. By the former procedure, with the modifications referred to, the effect of the inflated rectal bag and of full vesical distension is first to make the bladder an abdominal organ, and to place the stone directly under the line of incision; secondly, to carry the fold of the peritoneum to a considerable distance above the symphysis pubis and leave an interval there which may be safely utilized by the operator for making an opening sufficiently large to extract a calculus of very considerable size. In addition to these advantages, the incisions of the supra-pubic operation are more safe and easy of performance than are those of the lateral operation, and, granted that the peritoneum is out of harm's way, they involve no structure of importance. These conditions present a striking contrast to those which characterize the line of incision necessary for the removal of a large calculus through the perineum.

The source of hemorrhage also is widely different in the two operations. In the lateral it is arterial, often formidable in amount, and in rare instances has been fatal. In the supra-pubic, on the other hand, arterial bleeding is not an incident to be reckoned on; none but the smallest twigs are met with; any bleeding likely to be encountered is venous, and this may be considerable. My experience is at present small, but it suffices to furnish me good grounds for a belief that the use of the finger-nail in dividing and drawing aside the tissues will generally enable an operator to avoid the difficulties which have hitherto been described as attaching to the operation from hemorrhage.

A good deal has been written also in relation to the number and nature of the tubes to be introduced into the wound for the purpose of giving exit to the urine. I have never used one, and believe they are wholly unnecessary, unless for the purpose named, and injurious as local irritants. After the first twenty-four hours I have placed the patient on either side alternately every six hours, to facilitate the outflow of the urine, and to prevent excoriation of the skin by thus frequently changing the direction of the current.

Finally, I think I am quite justified in believing that unless the operator has had a large experience in lithotrity—and there are not many of whom this can be affirmed—the high operation would generally be a safer proceeding than crushing for a calculus which is hard and much above an ounce in weight.

Sloughing of the Scrotum, Unconnected with Urinary Extravasation.

Mr. J. N. VOGAN thus writes in the *Lancet*, July 25th:

Case 1. J. Y——, aged fifty-four, a shoemaker, was admitted on June 14th, 1884. A fortnight before admission, he suffered from retention of urine. The perineum became swollen. The urine was drawn off, and the scrotum and penis generally became black. On admission, the scrotum and the skin of the penis were quite black and gangrenous, but the glans penis appeared normal. The pubes and perineum were swollen and red. There was no redness of the thighs or buttocks. A No. 9 soft rubber catheter passed easily and drew off a few ounces of slightly albuminous urine, but with no admixture of blood. Incisions were made in the penis, scrotum, pubes, and perineum, and a poultice applied. A little fluid oozed from the wounds, but with no odor of urine. The patient became delirious and died the next day, after hæmatemesis to the amount of two pints. The post-mortem examination revealed no stricture or injury of the urethra, nor any lesion of the stomach or œsophagus. Kidneys and liver large and soft.

Case 2. E. H——, aged sixty, a commercial traveller, was admitted on December 22d, 1884. He was a fairly healthy-looking man, and stated that a week before his admission he was in good health, when his testicles began to swell and became painful. He knew of no cause for the swelling. He used a lotion as an application to the scrotum. The next morning the testicles were more swollen, and the scrotum was becoming black, especially over the left testicle. He thought he had used the lotion too strong, as he was told to dilute it, but did not do so. On admission, the scrotum over the left testicle had sloughed entirely; over the right testicle the sloughing was not so advanced. Both testes were exposed. The treatment adopted was a hot bath night and morning, nourishing diet with stimulants, and carbonate of ammonia in five-grain doses. A dressing soaked in solution of iodine (twelve minims of saturated spirituous solution of iodine to half a pint of carbolic acid lotion, 1 in 100) was applied. The odor, which had been very offensive, was almost entirely stopped, and the sloughs separated within a week. The pain ceased the day after his admission.

On January 3d, 1885, he had effusion into both knee-joints; tongue furred; pulse 120; temperature 98.8°. He stated that he had suffered from slight attacks of gout for the last three years. All stimulants were stopped, and alkalies given.

January 5th.—The urine was faintly alkaline, sp. gr. 1015, pale amber color and cloudy, containing albumen; half a pint only passed in twelve hours. He was much troubled by cough. There were moist râles all over the chest, back and front; resonance impaired at the left base. The heart dullness extended downwards and outwards in the axillary line. Impulse not heaving; no murmur audible; sounds weak. The wounds were healthy, but the granulations rather pale. The effusion and pain in the knees continued, sometimes more, sometimes less; and the cough remained troublesome, and the appetite bad. The testicles were gradually covered in again by the scrotum. Stimulants were again given, and tonics. On February 16th he was sent to the Convalescent Home at Swanley, wearing a suspensory bandage, the right testis quite covered, but a little of the left still exposed. At Swanley he gradually got weaker till the 20th, when he

became much worse. There was then a basal diastolic apex murmur, cedema of both lower extremities, with blebs of serum and patches of purpura on the legs. There was some slight hemorrhage from the rectum. He died comatose on February 22d. No post-mortem examination was made.

Remarks.—Cases in which inflammation and sloughing of the scrotum occur, quite unconnected with urinary extravasation, are not very uncommon in hospital practice, although their rarity compared with sloughing the result of extravasation of urine may lead to an error in diagnosis. The cases related illustrate the gravity of the disease, not so much from the effect of the local conditions, which should be recovered from easily enough, as from the depraved condition of the bodily health which is indicated by their occurrence. The second case seemed as if it would prove an exception to the rule; for during the whole of the patient's stay in the hospital no grave general symptom was present, and the local conditions rapidly improved and got nearly well. But a complete collapse took place afterwards under the most favorable surroundings, and when all effects of the local gangrene had disappeared.

Treatment of Urethral Gleet by Medicated Metal Bougies.

Dr. T. J. HUDSON thus writes in the *Lancet*, June 6th: Chronic inflammation of the urethral mucous membrane or of the glands along its course is rarely benefited by oral medication, usually the reverse, and local applications as commonly carried out often fail us. During the last four years over eighty cases have come under my notice, and been treated as follows: The urethral discharge having lasted beyond ten or twelve weeks from the initial gonorrhoeal attack, the patient is placed on a hard bed or couch, and a No. 4 Brodie's solid bulbous metal bougie, anointed with carbolic oil (1 in 20), is passed into the bladder, which has been previously emptied. Silver instruments should be used, as they are unacted on by chemical substances. If this procedure proves easy and is unaccompanied with much spasm or pain, the instrument is kept in ten minutes, and the patient told not to urinate for some hours after. Unless much irritation or scalding result (when a longer interval is to be allowed), in four days' time a No. 6 instrument, anointed with resin ointment and iodoform (2 drachms to the ounce), is passed, and at once changed for a No. 8 or 10, which is kept in some twenty minutes. In another four days a No. 12, and then No. 14, are passed, the latter being the largest size used, and rather heavy, and kept in half an hour. If after a week's interval great improvement does not result, the same size is passed, again covered with iodide of sulphur ointment diluted to one-half with benzoated lard (animal fats penetrating better than the petroleum bases), and kept in from half an hour to two hours. In some of the most chronic and yet successful cases, it was thus kept in from four to five hours at a stretch.

Over fifty of the cases were thus entirely cured, many of several years' duration and treated by other methods. The remainder either passed out of sight after one or two instrumentations or had also drugs by the mouth, usually sandalwood oil and iodide of potash, with cinchona or tincture of cantharides with tincture of iron; while others showing a marked gouty, rheumatic, or strumous diathesis as the principal factor in keeping up the discharge, had constitutional treatment as well as local. The ages ranged from seventeen to forty years. No

bad results followed beyond a fleeting epididymitis in one case, from the iodide of sulphur ointment being fresh and too strong, and at times temporary slight incontinence. A suspensory bandage was enjoined throughout the treatment, but rarely abstinence from stimulants other than spirits. The average duration of treatment was from four to five weeks.

I am aware that the plan of passing medicated instruments down the urethra in these cases is an old one, but usually they are withdrawn at once or almost directly. Such formerly was my practice, and effected little permanent benefit, the cases soon relapsing. The good result obtained which is lasting, is, I believe, due to the long contact of the bougie and its medicament with the urethral canal. The cause of the long-continued discharge is, apart from stricture (which was present in but five of the above cases), mostly due to the spasmodic contraction of the urethral muscular and elastic fibres, reflex in character, which prevents the scattered patches of ulcerated or abraded mucous membrane from healing. Now, when the urethra is thus brought to the extreme limit of distention, and kept so for a sufficient period, this muscular action is paralyzed and ceases to act, irritability being removed; analogous to the condition of the sphincter ani when dilated for fissure, in both cases some tearing of muscular or elastic fibre probably occurring.

The medicament also acts, when kept in contact for some time with the secreting surface or glands, as a stimulator, astringent, and healer, which continues till at least the next micturition. A germicidal effect probably also occurs in the less chronic cases, since Neisser has described a micrococcus in urethritis, rod-shaped, and rather like the bacteria of ulcerative balanitic pus. The medicament should be put thickly on to the bougie, and if slight narrowing of the meatus occurs, a slit in it is useful, or the ointment gets removed and fails to reach the affected parts.

In the form of ointment it is much more beneficial than as a liquid preparation, not excluding balsam copaivæ or dilute iron solutions. That the good results are not alone due to it—i. e., the medicament—is shown by a gum elastic solid bougie of similar size when anointed and passed doing little and often no lasting good, and the patient often remarking that the "heavy" instrument did him most benefit. Now, this I take to be due to the fact that the former is somewhat compressible and compressed with effect by the urethra, and yields. Not so the latter; for I found that the elastic one was often held tightly, however long kept in; the metal one, however, paralyzes all resistance, and is quite free after a brief interval in the passage. It, moreover, acts with greater efficiency on irregularity, induration, and narrowing of the urethral canal and its submucous tissue, on fine granulations or warts, discharging lacunar, follicular, or mucous glandular abscesses, or merely the chronic blennorrhœal inflammation at either the fossa navicularis, beginning of membranous or (most often) bulbous portions of the urethra; also when shreds of glairy mucus are secreted due to relaxed and chronically inflamed prostate, and not alone curable by open blisters for some weeks to the perineum. The part affected is often indicated by fixed local increased sensibility on instrumentation.

Injections I never use, for it is very problematical if they ever reach the whole, or even a greater part, of the morbid mucous lining in these old cases, which is,

however, effectually done by the above method. The same applies to the urethral irrigators once in vogue, three cases of their use by patients having been seen, and none being cured thereby. Iodoform and other soluble bougies, up to six inches in length, are often much objected to in private practice, from their objectionable smell, etc. They do not dilate the passage appreciably, and, though often formerly used, have never in my hands *per se* cured a case of long-standing gleet.

General Abdominal Carcinoma.

DR. G. A. HEWITT thus writes in the *Northwestern Lancet*: F. B., male, 50 years of age, began to suffer three years and a half before his death, from lancinating, cramping pains, originating in the epigastrium, shooting thence in various directions through the abdomen and sides, and even at times into the neck and head. At about the same time he experienced nausea, never vomited, but once in every three or four weeks would pass by the bowel large quantities of blood. As a rule he was obstinately constipated. His appetite gradually failed and he became greatly troubled with flatulence. He very slowly lost flesh, strength and color, and, with the pallor, his skin acquired a yellowish tinge, the conjunctiva remaining clear.

Thus he went on until last November. For the two preceding months he had had general anasarca. In addition to the swelling due to transuded serum, there could be distinguished in the abdomen a tumor, of ovoidal shape, three or four inches long, apparently springing from the left lobe of the liver, and the seat of constant, severe, throbbing pain. At this time he had chills and fever. Finally, about the middle of November, the tumor spontaneously ruptured, discharging its contents into the bowel. During five days an enormous quantity of blood mixed with pus was passed, and the patient was brought to the very verge of the grave; he lay motionless and lethargic; at the end of this period he began slowly to revive. A week after the tumor burst he became decidedly jaundiced, and passed by the bowel large quantities of pure, unmixed bile; a week later a large "core" was discharged by the same route. The œdema of the face and abdomen was removed by these profuse discharges; the abdominal tumor also disappeared.

For about two months he improved temporarily, gained strength and appetite, ate heartily, and suffered little pain. During the last three months, however, he failed steadily, though very gradually. About three months before death there was discovered a small, hard, immovable tumor, painful upon manipulation, situated in the epigastrium. Though often anxiously searched for, a permanent tumor had never before been definitely made out. From this time onward, however, it grew very rapidly, and became the seat of severe pain. It received an impulse from the abdominal aorta, but there was no thrill nor *bruit*. The liver did not seem to be much enlarged before the appearance of the tumor; later, palpation became so painful, and the patient was failing so rapidly, that physical examination was not much insisted on.

During the last three months various nervous manifestations appeared: insomnia, tremors, itching of skin, spasm of the bronchi, inducing a sort of asthma, spasm of the œsophagus, causing difficulty in swallowing, and the so-called "globus hystericus." During this time, also, he complained bitterly of pain in his tongue, although no aphthous spots, ulcers or nodules, ever appeared.

About a month before death he began to vomit. This symptom, so long delayed, never became notably frequent or severe. The matter ejected consisted of ingesta, at times of gastric mucus only; never of blood. Neither was any blood passed by the bowel during the last four or five months.

No history of heredity could be obtained.

The duration of the case, the absence of a tumor and of vomiting, and the occurrence of intestinal hemorrhages, rendered an accurate diagnosis difficult. The long-delayed appearance of the tumor raised a suspicion of primary carcinoma of the pancreas. It appears probable, however, that the disease originated near the cardiac orifice of the stomach.

The fatal issue occurred on April 18th, 1885. The autopsy was made about eight hours after death, with the assistance of Drs. Renz and Robb. The appearances were as follows:

The abdominal cavity contained about $5\frac{1}{2}$ ounces of straw-colored serum. The liver was moderately enlarged, its surface dotted with cancerous nodules, some being quite large. It was attached by adhesions to the stomach and duodenum. The stomach was contracted to about half its normal size, and attached by adhesions to the left kidney, spleen and duodenum. The great omentum was also adherent to these organs. Nodules could be felt in all parts of the stomach, from the cardiac to the pyloric orifice. The pancreas was one large, cancerous mass, firmly adherent to the surrounding organs. The neighboring lymphatic glands were also involved. The spleen was rather small, and apparently normal. The kidneys were about normal in size, and neither seemed cancerous to external appearance or on section. The left supra-renal capsule was enlarged, hard and nodular. A small secondary cancer was also found in one of the glands of the mesentery, quite distant from the general mass. The whole upper part of the abdomen consisted of one mass connected by adhesions, in which the liver, stomach, pancreas, mesenteric glands, left kidney, and supra-renal capsule were included. The great blood vessels were also included. There was no general peritonitis. The lungs exhibited hypostatic congestion at their bases. The heart was pale and flabby. The ventricles, pulmonary artery and aorta contained ante-mortem clots, and in the thoracic aorta was found an ante-mortem clot six inches long. The œsophagus was normal.

Remarks On Two Cases of Single Kidney.

Dr. P. W. MACDONALD thus writes in the *Lancet*: Cases of congenital absence of one kidney are comparatively rare. Mr. Henry Morris, in an address before the Medical Society of London, said: "Out of 8068 post-mortem cases, there were but two instances of congenital absence, and one only of congenital atrophy, of the kidney." To have met with two cases in less than one hundred necropsies has, judging from recorded cases, been the experience of none, and I have thought the following remarks might be of interest to those who give their special attention to the surgery of the kidneys.

The first case I met with was in 1881. The subject was a male patient suffering from epileptic dementia. He died on April 27th, and a necropsy was made forty-eight hours after death. The brain, lungs, and heart were found to be, as far as the naked eye could discern, normal. Liver large and congested; capsule

adherent; cut surface shiny and dark-colored; blood oozed out; whole organ soft and probably fatty. Spleen normal. The liver and spleen being removed, I then proceeded to remove the kidneys, and found they were absent from where they normally ought to have been. Reflecting the mesentery and small intestines, one large kidney was found lying on the spinal column opposite the second, third, and fourth lumbar vertebrae. It was enveloped in a natural capsule. It was large, weighing over $11\frac{1}{2}$ oz., and somewhat irregularly shaped. Vascular supply abnormal and large. One branch had its origin from the aorta, and a second one from the left common iliac artery. The branch from the iliac artery, which was the larger, entered at the normal pelvis, and the one from the aorta at the second or smaller pelvis. There were two ureters. One came from the normal pelvis of the kidney, the other from a sort of second pelvis at the upper end of the kidney. Both entered the bladder normally. The one from the smaller pelvis passed behind the one from the normal pelvis, and entered the bladder on the right side (as right ureter). The other ducts and glands in connection with the prostate were normal. There were two supra-renal capsules, one situated on each side of the eleventh dorsal vertebra, therefore quite unconnected with the kidney. Pelvic organs normal.

The second case was that of a female patient, who was admitted into this asylum on August 16, 1883, and died on December 3, 1883. This patient was also the subject of epilepsy. At the necropsy, made twenty-four hours after death, the body was emaciated, and there was slight oedema of the left leg. Head: Thickening and opacity of the arachnoid over the frontal lobes, and atrophy of the left superior frontal convolution. Pia mater easily removed. No apparent congestion. Heart large, and muscular structure pale; valves closed. Both lungs were studded with caseous nodules, and there were several rather large cavities in the left lung. There were pleuritic adhesions. The liver was soft and pale. On section, there were signs of commencing fatty changes. The capsule showed whitish patches. The spleen was normal. Intestines normal and no ulceration. On proceeding to remove the kidneys, no trace of the right kidney or ureter could be found. The left lay in its normal position; was large, weighing over nine ounces. The supra-renal capsules were normal. There was one ordinary-sized ureter, which entered the bladder on the left side. There were two renal arteries, one large one coming off from the aorta below the superior mesenteric artery, and a second smaller one an inch below the larger. The larger one gave a branch to the left supra-renal capsule. The right capsule received a branch from the aorta. The kidney was congested, but not otherwise diseased. Pelvic organs normal.

In neither case was it known during life that there was only one kidney present—a fact easily understood when it is stated that in the first case the patient was an epileptic dement, and at no time of his residence in the asylum had he shown any symptom of kidney mischief, and at last died from general decay. The subject of the second case (female) was also suffering from epilepsy with maniacal symptoms, and after a short residence in the asylum succumbed to one of the most dire diseases, phthisis. The oedema of the left leg in this case was due to an enfeebled and embarrassed circulation. It will thus be seen that there was at no time any necessity to make an external examination of the kidneys, and con-

sequently the fact remained unknown till met with on the post-mortem table. The interesting points are the abnormal site of the kidney with its two ureters, in one case, and the large and abnormal arterial supply in both. There would have been much difficulty in arriving at even a probable diagnosis as to the site of the kidney, in the first case, had need arisen to map out the kidney on the living subject, a proceeding which is at no time attended with certainty; for Mr. Luther Holden says: "I have never succeeded in satisfying myself that I have distinctly felt its rounded lower border in the living subject, nor even in the dead." As already mentioned, the kidney was very large and irregular. On section it seemed to be one large kidney with a smaller one joined on to its upper end. The smaller pelvis had separate and distinct pyramids, and there was a rather thick cortical layer between them and those of the larger or normal pelvis. The arterial supply was abnormal in both cases, and the branch supplied by the left common iliac artery would have caused much annoyance in any operation on that artery or in its immediate neighborhood.

Numerous cases of the congenital absence of one kidney have been met with and reported. Dr. Jonathan Hutchinson, in a clinical lecture delivered at the London Hospital, mentions a case, and draws attention to the dangers that may arise in such cases from suppression of urine by renal calculi or any other untoward event. Mr. Gubbin reports a case of complete absence of the left kidney and supra-renal capsule, and quotes a series of cases collected by Dr. Brenner in 1838. Dr. Brenner states that in a third of his cases there was malformation or arrest of development in one or other of the genital organs. Mr. Thomas Wilmot mentions a case of single kidney, and states that the apparent cause of death was the secondary formation of an abscess in the kidney. In 1878, Beumer collected a series of cases, and drew attention to the effect of the absence of one kidney on the sexual passions. In the literature on the subject to which I have had access, I fail to find a reported case of single kidney with two ureters. Notwithstanding that such cases are rare, it is nevertheless necessary in these days of advanced abdominal surgery to recall and bear in mind such important abnormalities, for a timely thought in this direction might save both surgeon and patient from unpleasant recollections.

Essentials for the Safe Administration of Ether.

Dr. DAVID W. CHEEVER concludes an article on the administration of ether, in the *Boston Medical and Surgical Journal*, by giving the following essentials for its safe use:—An empty stomach; a loose neck; a free abdomen, no corsets or skirt-bands; removal of artificial teeth; an easy semi-recumbent position; a sponge wrapped in towels for the ether; a gag and forceps for the tongue. When stertor occurs, the patient should be tipped forward, the cheek opened with two fingers, the tongue drawn out, the fauces swabbed. To ensure safety, the surgeon should hear every respiration of the patient. Anæsthesia from sulphuric ether is of two forms: 1. Primary anæsthesia, which is a moment of confusion coming on after a very few inspirations. At this moment a whitlow can be opened without pain, and the patient awakened at once. 2. Comatose anæsthesia, for prolonged operations. Ether may be given almost indefinitely. To relieve the hopeless agony of tetanus, Dr. Cheever has had it administered for twenty-four hours.

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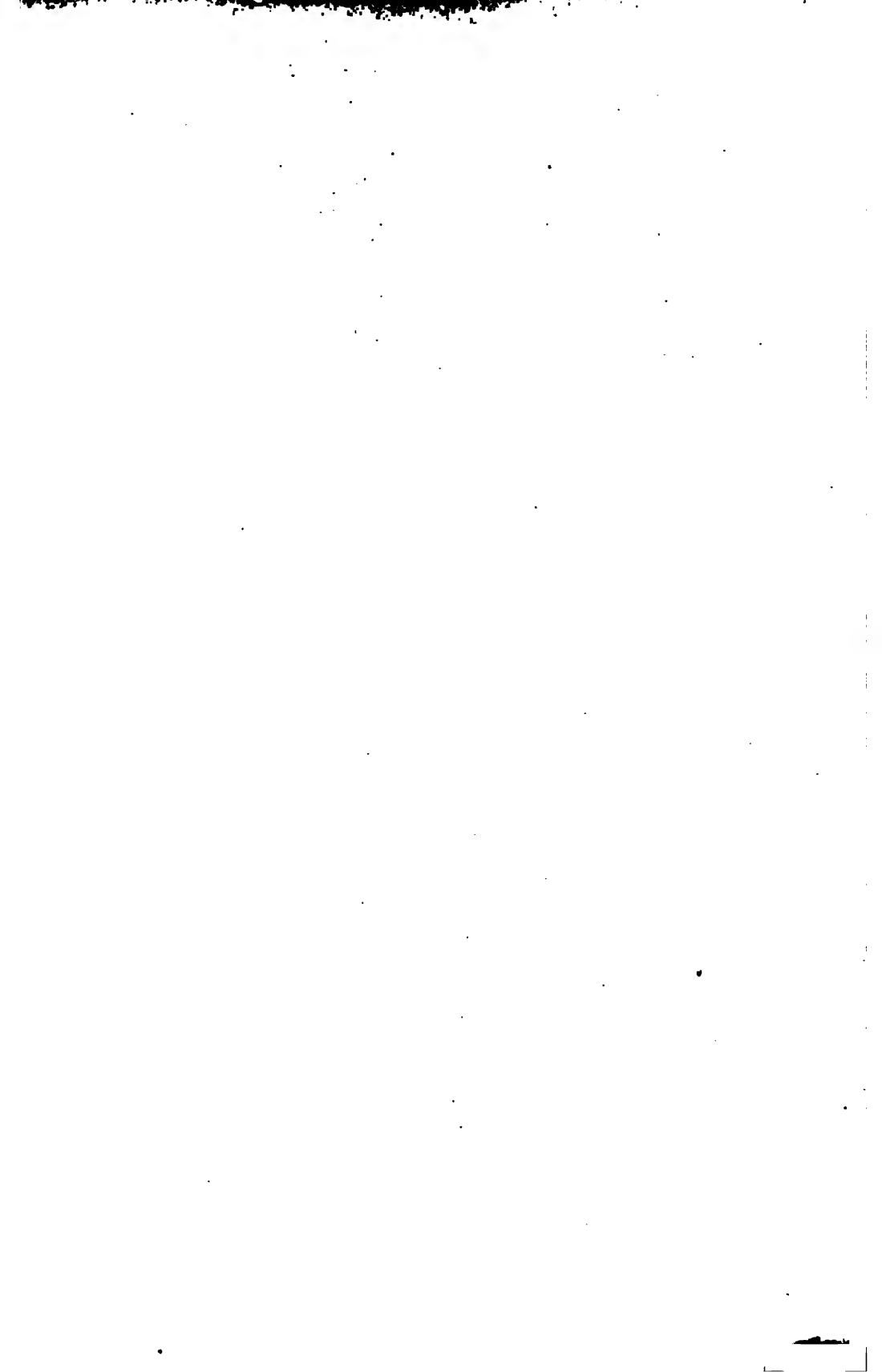
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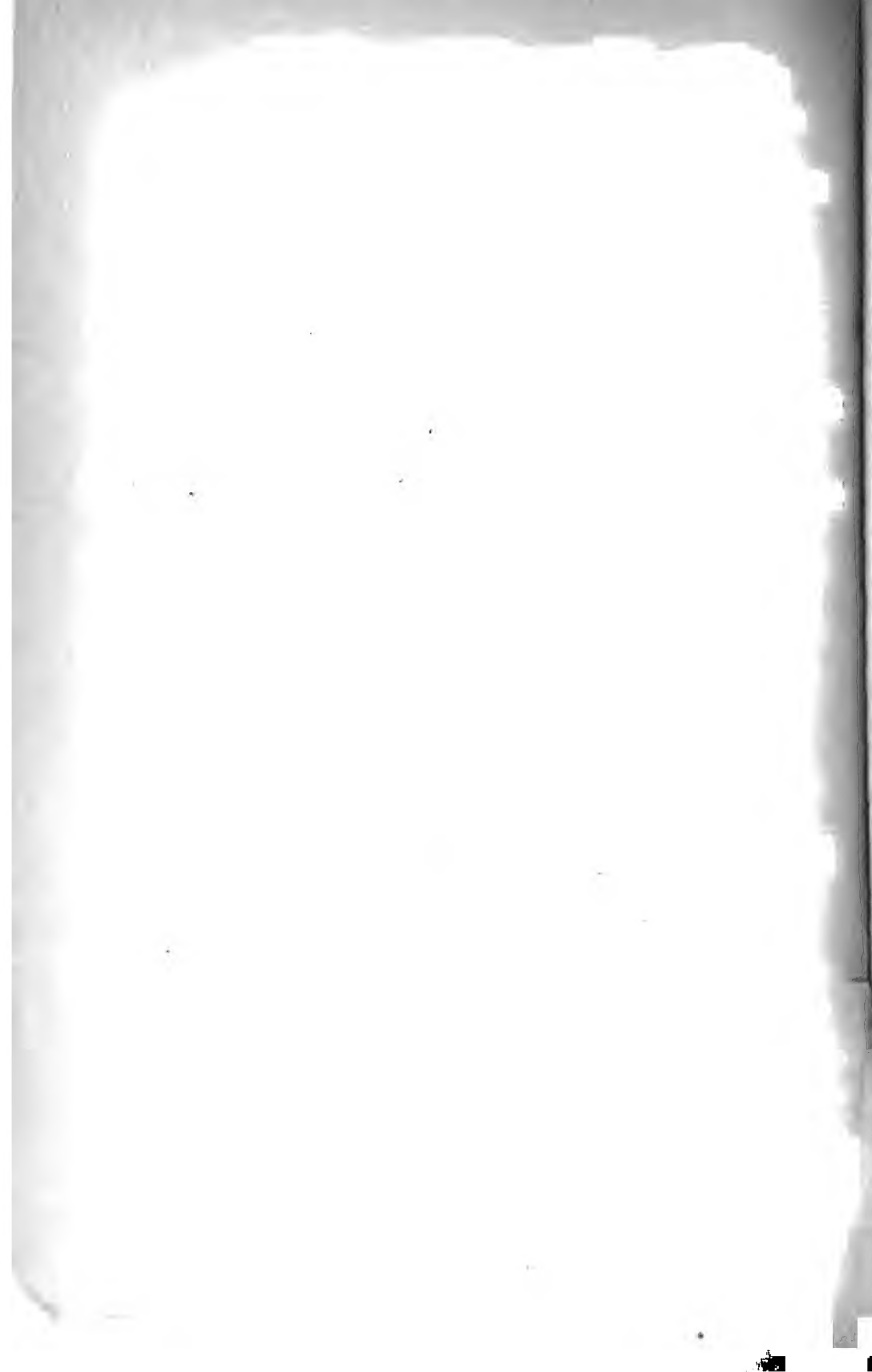
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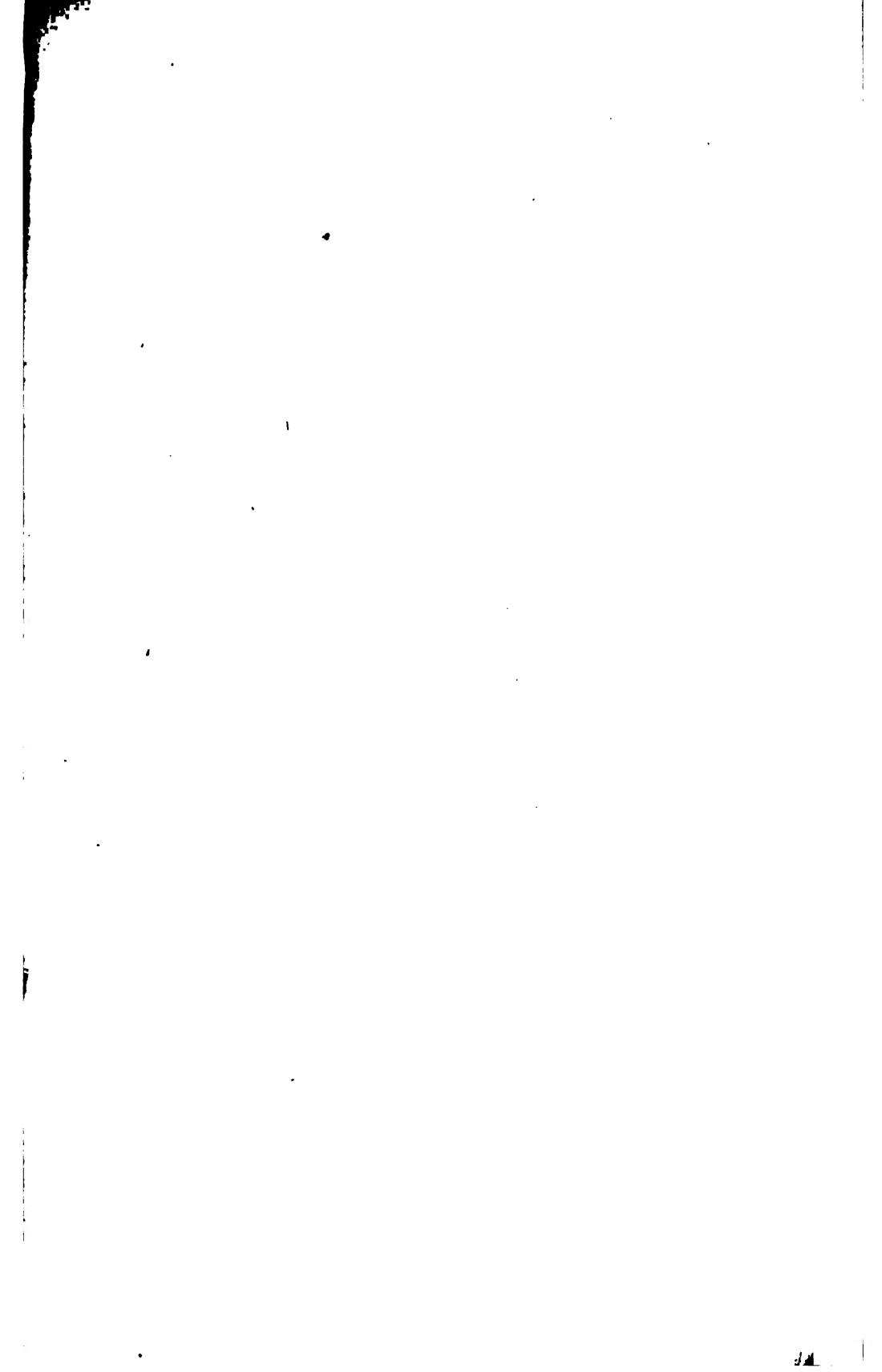
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3 gal
255 +

